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HCHS/SOL FLOR Derived Variable Dictionary

INV2 - September 2024

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The Hispanic Community Health Study / Study of Latinos (HCHS/SOL)
SOL FLOR Derived Variable Dictionary
INV Version 2.0, September 2024

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TRACKING TABLE OF DATA RELEASES (VERSION CONTROL)

Version	Date	Description	Documentation
_INV1	9/8/2023	Preliminary Data	V1.0 (Sept. 2023)
_INV2	9/20/2024	Final Data (N=291 dyads). Changes in FLOR_PART_DERV: - New variables: PARITY_V1, PRIMIPARA, YRS_BTWN_V1FLOR, INCOME_C9, AGEGRP_CHILD_C4, BORN_AFTERV2, BMIPCT_C3. - Updated variables: PROTOCOL_TYPE, MYFA_SYMPTOMS, MYFA_CLINISIGNIF, COUNT_HFHS, GTIME, REDE_AVGSCORE, DEMANDIGNESS, RESPONSIVENESS, PARENTAL_STYLE_H, PARENTAL_STYLE.	V2.0 (Sept. 2024)

1. DESIGN

1.1. MODE1 (Completed Mode 1 of SOL FLOR)

This is a binary variable that indicates whether the participant participated in Mode 1 of SOL FLOR study. Due to COVID-19, the sites were closed from April 2020 to September 2020. Mode 1 participants are those who were enrolled on or after October 1, 2020 and participated in the remote interview.

Algorithm:
If ICRE1 = 1 or (ICTE1 = 1 and ICRE0A is missing and ICTE0A is on or after October 1, 2020) then MODE1 = 1;
Else MODE1 = 0;

Response Format: 0 = pre-COVID protocol
1 = Mode 1 protocol (remote interview)
Source variable(s):
ICRE0A. Date of completion of the Remote Interview Informed Consent/Assent Tracking Form
ICRE1. Mother agrees to participate in the SOL FLOR remote interview (mode 1)
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICTE1. Mother agrees for both her and her child to participate in the SOL FLOR study

1.2. MODE2 (Completed Mode 2 of SOL FLOR)

This is a binary indicator that indicates whether the participant participated in Mode 2 of SOL FLOR study. Mode 2 participants are those who participated in Mode 1 (remote interview) and also provided child anthropometry measurements, collected either at home or at clinic.

Algorithm:
If ICRE1 is not missing then do the following:

- If ANTE0A is not missing then MODE2 = 1;
- Else MODE2 = 0;

Else if ICRE1 is missing and ICTE0A is on or after October 1, 2020 then do the following:

- If ICTE1 = 1 and ANTE0A is not missing then MODE2 = 1;
- Else MODE2 = 0;

Else if ICTE0A is not missing and ICTE0A is on or before March 31, 2020 then MODE2 = 0;

Response Format: 0 = Did not participate in Mode 2
1 = Participated in Mode 1 and Mode 2
Source variable(s):
ANTE0A. Date of anthropometry measurements

ICRE1. Mother agrees to participate in the SOL FLOR remote interview (mode 1)
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICTE1. Mother agrees for both her and her child to participate in the SOL FLOR study

1.3. PROTOCOL_TYPE (Protocol type)

This is an integer variable from 1 to 4, indicating the protocol types of the SOL FLOR participants. It considers all possible combinations of Mode 1 and Mode 2 status and distinguishes remote participants and at clinic participants.

- Protocol Type 1 (Pre-COVID) applies to participants whose data were collected at clinic before April 1, 2020.
- Protocol Type 2 (Mode 1 only) applies to participants who completed the remote interview but did not provide child anthropometry data.
- Protocol Type 3 (Mode 1 and Mode 2 (at clinic anthropometry)) applies to participants who completed the remote interview and had child anthropometry measurements taken at clinic using the Tanita machine.
- Protocol Type 4 (Mode 1 and Mode 2 (remote anthropometry)) applies to participants who completed the remote interview and took child anthropometry measurements at home using the Nutrifit scale.

Note that 11 participants had child anthropometry measurements taken both during a remote home visit using the Nutrifit scale and during an in-person clinic visit using the Tanita machine. Those 11 participants have a Protocol Type of 3 because they had a clinic visit.

Response Format: 1 = Pre-COVID
2 = Mode 1 (phone) only
3 = Mode 1 (phone) and Mode 2 (at clinic anthropometry)
4 = Mode 1 (phone) and Mode 2 (remote anthropometry)

Source variable(s):
ANTE0A. Date of anthropometry measurements
ICRE1. Mother agrees to participate in the SOL FLOR remote interview (mode 1)
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICTE1. Mother agrees for both her and her child to participate in the SOL FLOR study

2. ADMINISTRATIVE

2.1. ID (HCHS/SOL Mother Participant ID - Masked)

This is a character variable showing the unique ID for SOL FLOR mother participants. It has been masked to prevent re-identification.

Source variable(s):
HCHS/SOL mother's ID

2.2. ID_CHILD (SOL FLOR Child ID - Masked)

This is a character variable showing the unique ID for SOL FLOR child participants. It has been masked to prevent re-identification.

Source variable(s):
SOL FLOR Child's ID

2.3. ID_DAD (HCHS/SOL Father participant ID - Masked)

This is a character variable showing the unique ID for SOL FLOR father participants (n = 62). It has been masked to prevent re-identification.

Source variable(s):
DEMB5A. Father HCHS/SOL participant's ID

2.4. CENTER (Participant's Field Center)

This is a character variable with four possible values derived from the city of origin of the participant's field center at baseline visit: "B"= Bronx, "C"= Chicago, "M"= Miami, "S"= San Diego.

2.5. CLINDATE_FLOR (SOL FLOR Clinic Date)

This is a SAS date variable which documents the date of the participant's clinic visit for those who participated in person pre-COVID (on or before March 31, 2020; PROTOCOL_TYPE = 1) and also for the Mode 2 participants who came to the clinic to have the child anthropometric measurements taken (PROTOCOL_TYPE = 3). For Mode 2 participants who did not come to the clinic (PROTOCOL_TYPE = 4), this is the date when the child anthropometric measurements were taken remotely. For participants who completed Mode 1 only (PROTOCOL_TYPE = 2), this is the date of remote consent. It is derived from the dates collected from the following form: Informed Consent/Assent Tracking Form (ICTE), Remote Interview Informed Consent/Assent Tracking Form (ICRE), Anthropometry Form (ANTE), which are usually collected on the day of the exam.

Algorithm:
If ANTE0A is not missing then CLINDATE_FLOR = ANTE0A;
Else if ICTE0A is not missing then CLINDATE_FLOR = ICTE0A;
Else if ICRE0A is not missing then CLINDATE_FLOR = ICRE0A;

Source variable(s):
ANTE0A. Date of anthropometry measurements
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICRE0A. Date of completion of the Remote Interview Informed Consent/Assent Tracking Form

2.6. YRS_BTWN_V1FLOR (Elapsed time in years between visit 1 and FLOR clinic date)

This is a continuous variable that calculates the total elapsed time (in years) between HCHS Visit 1 and SOL FLOR clinic dates.

Algorithm:
(CLINDATE_FLOR – CLINDATE) / 365.25;

Source variable(s):
CLINDATE_FLOR. SOL FLOR Clinic Date
CLINDATE. HCHS SOL Visit 1 Clinic Date

2.7. CONSENT_FLOR (Informed Consent/Assent Status for Participation in Study)

This is a binary variable that determines whether or not a study participant consented to participate in the SOL FLOR study. It is derived from the following three forms: Individual Eligibility Form (ELEB), Informed Consent/Assent Tracking Form (ICTE), and Remote Interview Informed Consent/Assent Tracking Form (ICRE). CONSENT_FLOR is defined for eligible participants. In ICTE, if the father is available for consent, both the father and the mother would provide consent, as well as children 7 years old and above. In ICRE, there is only one question where the mother would provide consent to participate in the SOL FLOR remote interview (mode 1). Note that one mother participant provided consent in the ICTE form but had a missing response in the child's consent status (ICTE3). Since this participant only completed the Mode 1 remote interview, which did not involve child participant, CONSENT_FLOR for this participant was hardcoded to skip over the missing ICTE3.

Algorithm:
If ELEB3 = 0 and ELEB4 = 5 then do the following:

- if ICRE1 is missing or ICTE0A >= ICRE0A then do the following:
    - If ICTE0A is on or before March 31, 2020 then do the following:

        - If [ICTE0C = 0 or (ICTE0C = 1 and ICTE2 = 1)] and [ICTE1 = 1 and (ICTE3 = 1 or ICTE3 = 2)]
          then CONSENT_FLOR = 1;
        - If [ICTE0C = 0 and (ICTE1 = 0 or ICTE3 = 0)] or [ICTE0C = 1 and (ICTE1 = 0 or ICTE2 = 0 or ICTE3 = 0)] then CONSENT_FLOR = 0;
    - Else if ICTE0A is on or after October 1, 2020 then do the following:
        - If ICTE1 = 1 and (ICTE3 = 1 or ICTE3 = 2) then CONSENT_FLOR = 1;
        - If ICTE1 = 0 or ICTE3 = 0 then CONSENT_FLOR = 0;
- Else if ICTE1 is missing or ICTE0A < ICRE0A then do the following:
    - If ICRE1 = 1 then CONSENT_FLOR = 1;
    - Else if ICRE1 = 0 then CONSENT_FLOR = 0;

Response Format: 0 = No
1 = Yes

Source variable(s):
ELEB3. Child has mental developmental or physical disabilities.
ELEB4. Mom/Child participation status.
ICRE1. Mother agrees to participate in the SOL FLOR remote interview (mode 1)
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICTE0C. Father (2nd parent) available for consent
ICTE1. Mother agrees for both her and her child to participate in the SOL FLOR
ICTE2. Father (2nd parent) agrees for his/her child to participate in the SOL FLOR
ICTE3. Child (7+ yrs) agrees to participate in SOL FLOR (0=No; 1=Yes; 2=age < 7 yrs)

2.8. ASSENT_FLOR (Informed Assent Status for Participation in FLOR)

This is a binary variable that determines whether or not a child participant (7 years old and above) assented to participate in the SOL FLOR study. Due to COVID-19, the IRB approved verbal consent. If the mother participant provided verbal consent, was enrolled remotely, and did not bring the child to the clinic on a later date for anthropometry measurements, then the child assent can be legitimately skipped even when the child is 7 years old and above.

Algorithm:
If ICTE3 = 0 then ASSENT_FLOR = 0;
If ICTE3 = 1 then ASSENT_FLOR = 1;
If ICTE3 is missing or ICTE3 = 2 then ASSENT_FLOR = .S;

Response Format: 0 = No
1 = Yes
.S = Legitimately skipped

Source variable(s):
ICTE3. Child (7 years old and above) agrees to participate in the SOL FLOR study

3. SOCIO-DEMOGRAPHIC

3.1. AGE_CHILD_CLINDATE (Child's age in years using CLINDATE)

This is an integer variable for the age of the child participant in years at the time of clinic visit or at the time when the child anthropometric measurements were taken at home for the remote participants. For participants who completed Mode 1 only, this variable is the age of the child participant in years at the time of remote consent. It is derived from the participant's date of birth (confidential variable not in release) and the SOL FLOR clinic visit date.

Algorithm:
AGE_CHILD_CLINDATE = INTEGER of (CLINDATE_FLOR – DEMB2)/365.25;

Source variable(s):
CLINDATE_FLOR. SOL FLOR Clinic Date
DEMB2. Date of birth (confidential, not released)

3.2. AGE_CHILD_CLINDATE_MO (Child's age in months using CLINDATE)

This is an integer variable for the age of the child participant in months at the time of clinic visit or at the time when the child anthropometric measurements were taken at home for the remote participants. For participants who completed Mode 1 only, this variable is the age of the child participant in months at the time of remote consent. It is derived from the participant's date of birth (confidential variable not in release) and the SOL FLOR clinic visit date.

Algorithm:
AGE_CHILD_CLINDATE_MO = Number of months from DEMB2 to CLINDATE_FLOR (calculated using the SAS function INTCK);

Source variable(s):
CLINDATE_FLOR. SOL FLOR Clinic Date
DEMB2. Date of birth (confidential, not released)

3.3. AGEGRP_CHILD_C4 (Child's age in 4 levels)

This is the categorical variable with four age groups for the child participant. It is determined from the derived variable AGE_CHILD_CLINDATE. Age groups were determined to reduce small counts.

Algorithm:
If AGE_CHILD_CLINDATE is not missing and is less than or equal to 5 the AGEGRP_CHILD_C4 = 1;
Else if AGE_CHILD_CLINDATE is less than or equal to 7 then AGEGRP_CHILD_C4 = 2;

Else if AGE_CHILD_CLINDATE is less than or equal to 8 then AGEGRP_CHILD_C4 = 3;
Else if AGEGRP_CHILD_C4 = 4;

Response Format: 1 = 3-5 years
2 = 6-7 years
3 = 8 years
4 = 9-10 years

Source variable(s):
AGE_CHILD_CLINDATE. Child's age in years using CLINDATE_FLOR

3.4. AGE_CHILD_ENROLL (Child's age in years at SOL FLOR enrollment)

This is an integer variable for the age of the child participant in years at the time of enrollment into the SOL FLOR study. It is determined from the participant's date of birth (confidential variable not in release) and the assent date.
Per protocol, child needed to be at least 3 and less than 10 years old at the time of enrollment to be eligible for the study. The data for one child participant were deleted due to the protocol violation that the age at enrollment was more than 10 years old. During COVID-19, remote enrollment and data collection was approved by the IRB. Hence, it is possible to have child participants with age at enrollment less than 10 years old but age at clinic more than 10 years old if they visited the clinic on a later date.

Algorithm:
If ICRE0A is missing and ICTE0A is not missing then AGE_CHILD_ENROLL = INTEGER of (ICTE0A – DEMB2)/365.25;
If ICRE0A is not missing then AGE_CHILD_ENROLL = INTEGER of (ICRE0A – DEMB2)/365.25;

Source variable(s):
ICTE0A. Date of completion of the Informed Consent/Assent Tracking Form
ICRE0A. Date of completion of the Remote Interview Informed Consent/Assent Tracking Form
DEMB2. Date of birth (confidential, not in release)

3.5. AGE_MOM_FLOR (Mother's age in years using CLINDATE)

This is an integer variable for the age of the mother participant in years at the time of clinic visit or at the time when the child anthropometric measurements were taken at home for the remote participants. For participants who completed Mode 1 only, this variable is the age of the mother participant in years at the time of remote consent. It is derived from the participant's date of birth (confidential variable not in release) and the SOL FLOR clinic visit date.

Algorithm:
AGE_MOM_FLOR = INTEGER of (CLINDATE_FLOR – DEM2)/365.25;

Source variable(s):
CLINDATE_FLOR. SOL FLOR Clinic Date
DEM2. Date of birth recorded at Visit 2 (confidential, not in release)

3.6. PARITY_V1 (Number of babies born alive by Visit 1)

This is an integer variable for the number of babies born alive before Visit 1. It is based on the Reproductive and Medical History form (RME) at Visit 2.

Algorithm:
If RME12A = 0 then PARITY_V1 = 0;
Else if RME12A > 0 then PARITY_V1 = RME19;

Source variable(s):
RME12A. Times Pregnant Before V1
RME19. Number of babies born alive before V1

3.7. PRIMIPARA (FLOR baby is 1st live birth ever (1-yes, 0-no))

This is a binary variable that indicates whether the child participant in SOL FLOR is the first live birth for the mother participants.

Algorithm:
If PARITY_V1 = 0 then PRIMIPARA = 1;
Else if PARITY_V1 > 0 then PRIMIPARA = 0;

Source variable(s):
PARITY_V1. Number of babies born alive by Visit 1

3.8. BORN_AFTERV2 (Baby born after mom's visit 2)

This is a binary variable that indicates whether the child participant in SOL FLOR was born after the mom's visit 2 clinic date.

Response Format: 0 = No
1 = Yes
Source variable(s):
HCHS/SOL mother's ID

3.9. INCOME_C9 (Annual family income in 9 categories)

This derived variable groups each subject to one income category. It is derived using DEMB8 and DEMB9 from the Demographic Information Form (DEMB) collected by SOL FLOR. DEMB8 has 5 categories for annual family income less than $30,000. DEMB9 has 5 categories for income more than $30,000. In the definition for INCOME_C9, the highest two categories in DEMB9 are combined into one category. Hence, INCOME_C9 has 9 categories.

Algorithm:
If DEMB8 is not missing then INCOME_C9 = DEMB8;
Else if DEMB9 in (1, 2, 3) then INCOME_C9 = DEMB9 + 5;
Else if DEMB9 in (4, 5) then INCOME_C9 = 9;

Response Format: 1 = <$10,000
2 = $10,001-$15,000
3 = $15,001-$20,000
4 = $20,001-$25,000
5 = $25,001-$29,999
6 = $30,000-$40,000
7 = $40,001-$50,000
8 = $50,001-$75,000
9 = >$75,000

Source variable(s):
DEMB8. Income < $30,000
DEMB9. Income > $30,000

4. WELL-BEING

4.1. CESD10_FLOR (10-item CES-D summary score for SOL FLOR)

This is a numeric variable with values ranging from 0 to 30, or missing. Higher value indicates a more negative well-being status. It is determined from the responses to 10 CES-D questions in the Well-Being Questionnaire (WBQE1 to WBQE10). The CES-D questions provide a self-reported severity measuring of depressive symptoms during the week before the WBQE interview. Out of the 10 questions, most of them query about negative well-being status, while WBQE5 and WBQE8 query about positive well-being status. Thus, in order that higher scores always have the same meaning, the responses to WBQE5 and WBQE8 are reverse coded.

Algorithm:
Recode WBQE5 and WBQE8 such that 0 is changed to 3
1 is changed to 2
2 is changed to 1
3 is changed to 0
If more than 2 source variables (i.e. >20% of the variables) are missing then set CESD10_FLOR to missing;
Else CESE10_FLOR = 10 * average of the non-missing items from WBQE1 to WBQE10;

Response format for WBQE1 to WBQE10:
0 = rarely or none of the time (< 1 day)
1 = some or a little of the time (1-2 days)
2 = occasionally or a moderate amount of time (3-4 days)
3 = all of the time (5-7 days)

Source variable(s):
WBQE1. I was bothered by things that usually don't bother me
WBQE2. I had trouble keeping my mind on what I was doing
WBQE3. I felt depressed
WBQE4. I felt that everything I did was an effort
WBQE5. I felt hopeful about the future
WBQE6. I felt fearful
WBQE7. My sleep was restless
WBQE8. I was happy
WBQE9. I felt lonely
WBQE10. I could not "get going"

4.2. GAD7_FLOR (GAD-7 summary score for SOL FLOR)

This is a numeric variable with values ranging from 0 to 21, or missing. Higher value indicates a more negative well-being status. It is determined from the responses to 7 GAD-7 questions in the Well-Being Questionnaire (WBQE11 to WBQE17). The GAD-7

questions provide a self-reported severity measuring of generalized anxiety disorder during the week before the WBQE interview.

Algorithm:
If more than 1 source variable (i.e. >20% of the variables) is missing then set GAD7_FLOR to missing;
Else GAD7_FLOR = Sum of items WBQE11 to WBQE17;

Response format for WBQE11 to WBQE17: 0 = Not at all
1 = Several days
2 = More than half the days
3 = Nearly every day

Source variable(s):
WBQE11. Feeling nervous, anxious or on edge
WBQE12. Not being able to stop or control worrying
WBQE13. Worrying too much about different things
WBQE14. Trouble relaxing
WBQE15. Being so restless that it is hard to sit still
WBQE16. Becoming easily annoyed or irritable
WBQE17. Feeling afraid as if something awful might happen

4.3. ANXIETY_FLOR (Anxiety Disorder)

This is a binary variable that indicates whether or not the participant had an anxiety disorder based on the self-reported GAD-7 measurements in the Well-Being Questionnaire (WBQE).

Algorithm:
If GAD7_FLOR is greater than or equal to 10 then ANXIETY_FLOR = 1;
Else if GAD7_FLOR is at least 0 and less than 10 then ANXIETY_FLOR = 0;
Else set ANXIETY_FLOR to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
GAD7_FLOR. GAD-7 summary score for SOL FLOR.

5. ANTHROPOMETRY – CHILD

5.1. HEIGHT (Height (cm))

This is a numeric variable for the child's height in centimeters. It is determined by taking the average from the height measurements in the Anthropometry form (ANTE).

Algorithm:
If ANTE2A and ANTE2B are not missing and the response to ANTE2B1 is no then HEIGHT = average of ANTE2A and ANTE2B;
Else if ANTE2C is not missing and the response to ANTE2B1 is yes then do the following:

- If the absolute difference between ANTE2A and ANTE2C is less than or equal to 2 then HEIGHT = average of ANTE2A and ANTE2C;
- Else if the absolute difference between ANTE2B and ANTE2C is less than or equal to 2 then HEIGHT = average of ANTE2B and ANTE2C;

Source variable(s):
ANTE2A. Standing height in centimeters (first measure)
ANTE2B. Standing height in centimeters (second measure)
ANTE2C. Standing height in centimeters (third measure)
ANTE2B1. The first two height measurements differ by more than 2 cm

5.2. WEIGHT (Weight (kg))

This is a numeric variable for the child's weight in kilograms. It is determined from the weight measurements in the Anthropometry form (ANTE).

Source variable(s):
ANTE4. Weight in kilograms

5.3. HAPCT (Height for age Percentiles - CDC (Child))

This is a numeric variable for the child participant's height for age percentile. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
HEIGHT. Height in centimeters

5.4. HAZ (Height for age Z-Score - CDC (Child))

This is a numeric variable for the child participant's height for age z-score. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
HEIGHT. Height in centimeters

5.5. WAPCT (Weight for age Percentiles - CDC (Child))

This is a numeric variable for the child's weight for age percentile. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
WEIGHT. Weight in kilograms

5.6. WAZ (Weight for age Z-Score - CDC (Child))

This is a numeric variable for the child participant's weight for age z-score. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
WEIGHT. Weight in kilograms

5.7. BMIPCT (Body Mass Index for age Percentiles - CDC (Child))

This is a numeric variable for the child's body mass index for age percentile. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
HEIGHT. Height in centimeters
WEIGHT. Weight in kilograms

5.8. BMIZ (Body Mass Index for age Z-Score - CDC (Child))

This is a numeric variable for the child's body mass index for age z-score. It is calculated using a SAS macro from the CDC's website.

Reference:
SAS program (ages 0 to < 20 years). Centers for Disease Control and Prevention. January 9, 2023. https://www.cdc.gov/nccdphp/dnpao/growthcharts/resources/sas.htm.

Source variable(s):
HEIGHT. Height in centimeters
WEIGHT. Weight in kilograms

5.9. BMIPCT_C3 (BMI percentile in 3 levels)

This is an integer variable from 1 to 3, indicating the 3 body mass index levels of the child participant. It is derived using BMIPCT, which is calculated using a SAS macro from the CDC's website.

Algorithm:
If BMIPCT >= 95 then BMIPCT_C3 = 3;
Else if BMIPCT >= 85 then BMIPCT_C3 = 2;
Else if BMIPCT is NOT missing then BMIPCT_C3 = 1;

Response Format: 1 = Normal
2 = Overweight
3 = Obese

Source variable(s):
BMIPCT. Body Mass Index for age Percentiles - CDC (Child)

6. EATING BEHAVIOR – CHILD

6.1. CEBE_EF (Child's Enjoyment of Food mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's enjoyment of food. It is determined from the responses to 4 questions in the Child Eating Behavior Form (CEBE1, CEBE5, CEBE20, and CEBE22). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
If more than 1 source variable (>25% of the variables) is missing then set CEBE_EF to missing;
Else CEBE_EF = average of the non-missing items of CEBE1, CEBE5, CEBE20, and CEBE22;

Response format for CEBE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE1. My child loves food
CEBE5. My child is interested in food
CEBE20. My child looks forward to mealtimes
CEBE22. My child enjoys eating

6.2. CEBE_EOE (Child's Emotional Overeating mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's emotional overeating. It is determined from the responses to 4 questions in the Child Eating Behavior Form (CEBE2, CEBE13, CEBE15, and CEBE27). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
If more than 1 source variable (>25% of the variables) is missing then set CEBE_EOE to missing;
Else CEBE_EOE = average of the non-missing items of CEBE2, CEBE13, CEBE15, and CEBE27;

Response format for CEBE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE2. My child eats more when worried
CEBE13. My child eats more when annoyed
CEBE15. My child eats more when anxious
CEBE27. My child eats more when s/he has nothing else to do

6.3. CEBE_DTD (Child's Desire to Drink mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's desire to drink. It is determined from the responses to 3 questions in the Child Eating Behavior Form (CEBE6, CEBE29 and CEBE31). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
If any of CEBE6, CEBE29 and CEBE31 is missing then set CEBE_DTD to missing;
Else CEBE_DTD = average of CEBE6, CEBE29 and CEBE31;

Response format for CEBE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE6. My child is always asking for a drink
CEBE29. If given the chance, my child would drink continuously throughout the day
CEBE31. If given the chance, my child would always be having a drink

6.4. CEBE_FR (Child's Food Responsiveness mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's food responsiveness. It is determined from the responses to 5 questions in the Child Eating Behavior Form (CEBE12, CEBE14, CEBE19, CEBE28, and CEBE34). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
If more than 1 source variable (>20% of the variables) is missing then set CEBE_FR to missing;
Else CEBE_FR = average of the non-missing items of CEBE12, CEBE14, CEBE19, CEBE28, and CEBE34;

Response format for CEBE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE12. My child is always asking for food
CEBE14. If allowed to, my child would eat too much
CEBE19. Given the choice, my child would eat most of the time
CEBE28. Even if my child is full up s/he finds room to eat her/his favourite food
CEBE34. If given the chance, my child would always have food in her/his mouth

6.5. CEBE_SE (Child's Slowness in Eating mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's slowness in eating. It is determined from the responses to 4 questions in the Child Eating Behavior Form (CEBE4, CEBE8, CEBE18, and CEBE35). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below. 3 out of the 4 questions query about child eating slowly, while CEBE4 queries about child eating quickly. Thus, in order that higher scores always have the same meaning, the response to CEBE4 is reverse coded.

Reference: Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
Recode CEBE4 such that 1 is changed to 5
2 is changed to 4
3 stays the same
4 is changed to 2
5 is changed to 1
If more than 1 source variable (>25% of the variables) is missing then set CEBE_SE to missing;
Else CEBE_SE = average of the non-missing items of CEBE4 (recoded), CEBE8, CEBE18, and CEBE35;

Response format for CEBE questions: 1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE4. My child finishes her/his meal quickly
CEBE8. My child eats slowly
CEBE18. My child takes more than 30 minutes to finish a meal
CEBE35. My child eats more and more slowly during the course of a meal

6.6. CEBE_FUSS (Child's Fussiness mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's fussiness in eating. It is determined from the responses to 6 questions in the Child Eating Behavior Form (CEBE7, CEBE10, CEBE16, CEBE24, CEBE32, and CEBE33). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below. 3 out of the 6 questions query about child being fussy in eating, while the other 3 questions query about child not being fussy. Thus, in order that higher scores always have the same meaning, the responses to CEBE10, CEBE16, and CEBE32 are reverse coded.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
Recode CEBE10, CEBE16, and CEBE32 such that 1 is changed to 5
2 is changed to 4
3 stays the same
4 is changed to 2
5 is changed to 1

If more than 1 source variable (>25% of the variables) is missing then set CEBE_FUSS to missing;
Else CEBE_FUSS = average of the non-missing items of CEBE7, CEBE10 (recoded), CEBE16 (recoded), CEBE24, CEBE32 (recoded), and CEBE33;

Response format for CEBE questions: 1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE7. My child refuses new foods at first
CEBE10. My child enjoys tasting new foods
CEBE16. My child enjoys a wide variety of foods
CEBE24. My child is difficult to please with meals
CEBE32. My child is interested in tasting food s/he hasn't tasted before
CEBE33. My child decides that s/he doesn't like a food, even without tasting it

6.7. CEBE_SR (Child's Satiety Responsiveness mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's satiety responsiveness. It is determined from the responses to 5 questions in the Child Eating Behavior Form (CEBE3, CEBE17, CEBE21, CEBE26 and CEBE30). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below. 4 out of the 5 questions query about child having a good response to satiety, while CEBE3 queries about child having low satiety. Thus, in order that higher scores always have the same meaning, the response to CEBE3 is reverse coded.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
Recode CEBE3 such that 1 is changed to 5
2 is changed to 4
3 stays the same
4 is changed to 2
5 is changed to 1
If more than 1 source variable (>25% of the variables) is missing then set CEBE_SR to missing;
Else CEBE_SR = average of the non-missing items of CEBE3 (recoded), CEBE17, CEBE21, CEBE26 and CEBE30;

Response format for CEBE questions: 1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE3. My child has a big appetite
CEBE17. My child leaves food on her/his plate at the end of a meal
CEBE21. My child gets full before her/his meal is finished
CEBE26. My child gets full up easily
CEBE30. My child cannot eat a meal if s/he has had a snack just before

6.8. CEBE_EU (Child's Emotional Undereating mean score)

This is a numerical variable ranging from 1 to 5, or missing to capture the mean score for the child participant's emotional undereating. It is determined from the responses to 4 questions in the Child Eating Behavior Form (CEBE9, CEBE11, CEBE23, and CEBE25). The responses are on a 5-point Likert scale. The choice of the variables is based on the PCA (table 2) from the reference below.

Reference:
Wardle, J., Guthrie, C. A., Sanderson, S., & Rapoport, L. (2001). Development of the children's eating behavior questionnaire. The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(7), 963-970.

Algorithm:
If more than 1 source variable (>25% of the variables) is missing then set CEBE_EU to missing;
Else CEBE_EU = average of the non-missing items of CEBE9, CEBE11, CEBE23, and CEBE25;

Response format for CEBE questions: 1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Source variable(s):
CEBE9. My child eats less when angry
CEBE11. My child eats less when s/he is tired
CEBE23. My child eats more when s/he is happy
CEBE25. My child eats less when upset

6.9. FOOD_APPROACH (Child's Food Approach)

This is a continuous variable that represents children's food approach behaviors. It is calculated as the mean of the scores for food responsiveness, enjoyment of food, emotional overeating, and desire to drink.

Algorithm:
If more than 1 source variable (>25% of the variables) is missing then set FOOD_APPROACH to missing;
Else FOOD_APPROACH = average of the non-missing items of CEBE_FR, CEBE_EOE, CEBE_EF, and CEBE_DTD;

Source variable(s):
CEBE_FR. Child's Food Responsiveness mean score
CEBE_EOE. Child's Emotional Overeating mean score
CEBE_EF. Child's Enjoyment of Food mean score
CEBE_DTD. Child's Desire to Drink mean score

6.10. FOOD_AVOIDANCE (Child's Food Avoidance)

This is a continuous variable that represents children's food avoidance behaviors. It is calculated based on the mean of the scores for satiety responsiveness, slowness in eating, fussiness, and emotional undereating.

Algorithm:
If more than 1 source variable is missing then set FOOD_AVOIDANCE to missing;
Else FOOD_AVOIDANCE = average of the non-missing items of CEBE_SR, CEBE_SE, CEBE_FUSS, and CEBE_EU;

Source variable(s):
CEBE_SR. Child's Satiety Responsiveness mean score
CEBE_SE. Child's Slowness in Eating mean score.
CEBE_FUSS. Child's Fussiness mean score
CEBE_EU. Child's Emotional Undereating mean score

6.11. GTIME (Time (min) to marshmallow test completion)

This is a numeric variable of the time in minutes to completion of the delayed gratification marshmallow test, ranging from 0 to 15. It is determined from the responses recorded in the Delayed Gratification Form (MATE). A child who completes the test without taking the snack is assigned 15 minutes. A child who responds “No” when asked if they want to wait for their treat is assigned 0 minutes.

Algorithm:
If MATE2 = 0 then GTIME = 0;
Else if MATE3 = 1 then GTIME = 15;
Else if MATE4 and MATE4A are both non-missing then
GTIME = MATE4 + (MATE4A / 60 (round to the nearest 1 decimal place));
Else if MATE4 is not missing then GTIME = MATE4;
If GTIME > 15 then set GTIME to missing;

Source variable(s):
MATE2. Do you want to wait for your treat
MATE3. Child waited the entire 15 minutes
MATE4. Child’s wait time in minutes
MATE4A. Child’s wait time in seconds

7. EATING BEHAVIOR – MOTHER

7.1. MYFA1_C2 (Consuming foods when not hungry >=4x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 4 or more times a week in the past 12 months for the following food addiction symptom: consuming certain foods even though they are no longer hungry. It is determined from question 1 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE1 = 5 then MYFA1_C2 = 1;
Else if MFAE1 = 1 or 2 or 3 or 4 then MYFA1_C2 = 0;
Else if MFAE1 is missing then set MYFA1_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE1. I find myself consuming certain foods even though I am no longer hungry

7.2. MYFA2_C2 (Worry about cutting down on food >=4x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 4 or more times a week in the past 12 months for the following food addiction symptom: worrying about cutting down on certain foods. It is determined from question 2 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American

Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE2 = 5 then MYFA2_C2 = 1;
Else if MFAE2 = 1 or 2 or 3 or 4 then MYFA2_C2 = 0;
Else if MFAE2 is missing then set MYFA2_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE2. I worry about cutting down on certain foods

7.3. MYFA3_C2 (Feel sluggish from overeating >=2x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 2 or more times a week in the past 12 months for the following food addiction symptom: feeling sluggish from overeating. It is determined from question 3 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE3 = 4 or 5 then MYFA3_C2 = 1;
Else if MFAE3 = 1 or 2 or 3 then MYFA3_C2 = 0;
Else if MFAE3 is missing then set MYFA3_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE3. I feel sluggish or fatigued from overeating

7.4. MYFA4_C2 (Spending time with negative feelings >=2x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 2 or more times a week in the past 12 months for the following food addiction symptom: spending time dealing with negative feelings from overeating certain foods, instead of spending time in important activities such as time with family, friends, work, or recreation. It is determined from question 4 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE4 = 4 or 5 then MYFA4_C2 = 1;
Else if MFAE4 = 1 or 2 or 3 then MYFA4_C2 = 0;
Else if MFAE4 is missing then set MYFA4_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE4. I have spent time dealing with negative feelings from overeating certain foods, instead of spending time in important activities such as time with family, friends, work, or recreation

7.5. MYFA5_C2 (Withdrawal symptoms >=2x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 2 or more times a week in the past 12 months for the following food addiction symptom: having had physical withdrawal symptoms such as agitation and anxiety when they cut down on certain foods (not including caffeinated drinks). It is determined from question 5 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE5 = 4 or 5 then MYFA5_C2 = 1;
Else if MFAE5 = 1 or 2 or 3 then MYFA5_C2 = 0;
Else if MFAE5 is missing then set MYFA5_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE5. I have had physical withdrawal symptoms such as agitation and anxiety when I cut down on certain foods (not including caffeinated drinks)

7.6. MYFA8_C2 (Behavior with food causes distress >=2x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 2 or more times a week in the past 12 months for the following statement about the presence of significant impairment or distress: their behavior with respect to food and eating causes significant distress. It is determined from question 8 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:

Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE8 = 4 or 5 then MYFA8_C2 = 1;
Else if MFAE8 = 1 or 2 or 3 then MYFA8_C2 = 0;
Else if MFAE8 is missing then set MYFA8_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE8. My behavior with respect to food and eating causes significant distress

7.7. MYFA9_C2 (Can't function effectively >=2x/wk)

This is a binary variable that indicates whether the participant reports meeting a threshold of 2 or more times a week in the past 12 months for the following statement about the presence of significant impairment or distress: experiencing significant problems in their ability to function effectively because of food and eating. It is determined from question 9 in the Modified Food Addiction Evaluation Form (MFAE). The response is on a 5-point Likert scale with 1 = Never, 2 = Once a month, 3 = 2-4 times a month, 4 = 2-3 times a week, and 5 = 4 or more times per week or daily.

References:
Flint AJ, Gearhardt AN, Corbin WR, Brownell KD, Field AE, Rimm EB. Food-addiction scale measurement in 2 cohorts of middle-aged and older women. The American Journal of Clinical Nutrition. Mar 2014;99(3):578-586.

Gearhardt AN, Corbin WR, Brownell KD. Food addiction: an examination of the diagnostic criteria for dependence. Journal of Addiction Medicine. Mar 2009;3(1):1-7.

Gearhardt AN, Corbin WR, Brownell KD. Preliminary validation of the Yale Food Addiction Scale. Appetite. Apr 2009;52(2):430-436.

Algorithm:
If MFAE9 = 4 or 5 then MYFA9_C2 = 1;
Else if MFAE9 = 1 or 2 or 3 then MYFA9_C2 = 0;

Else if MFAE9 is missing then set MYFA9_C2 to missing;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MFAE9. I experience significant problems in my ability to function effectively (daily routine, job/school, social activities, family activities, health difficulties) because of food and eating

7.8. MYFA_SYMPTOMS (Symptom count, Modified Yale Food Addiction)

This is an integer variable for the sum score of 7 food addiction symptoms, with values ranging from 0 to 7.

Algorithm:
If more than 1 variable (>20% of the variables) from (MYFA1_C2, MYFA2_C2, MYFA3_C2, MYFA4_C2, MYFA5_C2, MFAE6, MFAE7) is missing then set MYFA_SYMPTOMS to missing;
Else MYFA_SYMPTOMS = Sum of (MYFA1_C2, MYFA2_C2, MYFA3_C2, MYFA4_C2, MYFA5_C2, MFAE6, MFAE7);

Source variable(s):
MYFA1_C2. Consuming foods when not hungry >=4x/wk
MYFA2_C2. Worry about cutting down on food >=4x/wk
MYFA3_C2. Feel sluggish from overeating >=2x/wk
MYFA4_C2. Spending time with negative feelings >=2x/wk
MYFA5_C2. Withdrawal symptoms >=2x/wk
MFAE6. Consuming the same types or amounts of food despite significant emotional and/or physical problems related to eating
MFAE7. Eating the same amount of food does not reduce negative emotions or increase pleasurable feelings the way it used to

7.9. MYFA_CLINSIGNIF (Meets criteria for food addiction, Modified Yale Food Addiction)

This is a binary variable that indicates whether the participant meets the diagnostic criteria for food addiction based on the modified Yale food addiction scale, which is the presence of ≥ 3 (of 7) addiction symptoms + presence of (any) significant impairment or distress.

Algorithm:
If MYFA_SYMPTOMS is missing or (MYFA8_C2 is missing and MYFA9_C2 is missing) then set MYFA_CLINSIGNIF to missing;

Else if MYFA_SYMPTOMS is at least 3 and (MYFA8_C2 = 1 or MYFA9_C2 = 1) then MYFA_CLINSIGNIF = 1;
Else if MYFA_SYMPTOMS < 3 or (MYFA8_C2 not 1 and MYFA9_C2 not 1) then MYFA_CLINSIGNIF = 0;

Response format: 0 = No
1 = Yes
. = Missing

Source variable(s):
MYFA_SYMPTOMS. Symptom count, Modified Yale Food Addiction
MYFA8_C2. Behavior with food causes distress >=2x/wk
MYFA9_C2. Can't function effectively >=2x/wk

7.10. REDE_SUM (Reward-Based Eating Drive Scale Score)

This integer variable ranges from 0 to 52 and is the sum score of the 13 items from the Reward Based Eating Drive Form (REDE). The responses to the 13 questions are on a 5-point Likert scale from 0 to 4.

Reference:
Mason AE, Vainik U, Acree M, Tomiyama AJ, Dagher A, Epel ES, Hecht FM. Improving Assessment of the Spectrum of RewardRelated Eating: The RED-13. Front Psychol. 2017 May 30;8:795. doi: 10.3389/fpsyg.2017.00795. eCollection 2017.

Algorithm:
If any of the 13 REDE items is missing then REDE_SUM is set to missing
Else REDE_SUM = Sum of (REDE1 to REDE13);

Response format for REDE questions: 0 = Strongly Disagree
1 = Disagree
2 = Neither Agree nor Disagree
3 = Agree
4 = Strongly Agree

Source variable(s):
REDE1. I feel out of control in the presence of delicious food
REDE2. When I start eating, I just can’t seem to stop
REDE3. It is difficult for me to leave food on my plate
REDE4. When it comes to foods I love, I have no willpower
REDE5. I get so hungry that my stomach often seems like a bottomless pit
REDE6. I don’t get full easily
REDE7. It seems like most of my waking hours are preoccupied by thoughts about eating or not eating
REDE8. I have days when I can’t seem to think about anything else but food
REDE9. Food is always on my mind

REDE10. I feel hungry all the time
REDE11. I can’t stop thinking about eating no matter how hard I try
REDE12. I find myself continuing to consume certain foods even though I am no longer hungry
REDE13. If food tastes good to me, I eat more than usual

7.11. REDE_AVGZSCORE (Average of Z-scores for Reward-Based Eating Drive Scale)

This variable represents a continuous measure obtained by summing the standardized scores of the 13 items from the Reward-Based Eating Drive Form (REDE), as outlined in Mason et al.'s study (2017).

Reference:
Mason AE, Vainik U, Acree M, Tomiyama AJ, Dagher A, Epel ES, Hecht FM. Improving Assessment of the Spectrum of RewardRelated Eating: The RED-13. Front Psychol. 2017 May 30;8:795. doi: 10.3389/fpsyg.2017.00795. eCollection 2017.

Algorithm:
Standardize each item from REDE1 to REDE13 as zREDE1 to zREDE13;
REDE_AVGZSCORE = average of zREDE1 through zREDE13;

Source variable(s):
REDE1. I feel out of control in the presence of delicious food
REDE2. When I start eating, I just can’t seem to stop
REDE3. It is difficult for me to leave food on my plate
REDE4. When it comes to foods I love, I have no willpower
REDE5. I get so hungry that my stomach often seems like a bottomless pit
REDE6. I don’t get full easily
REDE7. It seems like most of my waking hours are preoccupied by thoughts about eating or not eating
REDE8. I have days when I can’t seem to think about anything else but food
REDE9. Food is always on my mind
REDE10. I feel hungry all the time
REDE11. I can’t stop thinking about eating no matter how hard I try
REDE12. I find myself continuing to consume certain foods even though I am no longer hungry
REDE13. If food tastes good to me, I eat more than usual

7.12. COUNT_HFHS (Count of High Fat/Sugar Foods in Home Food Inventory)

This is an integer variable ranging from 0 to 15 for the count of high fat or high sugar foods at home for each respondent.

Algorithm:
If HFIE2 = 0 then set HFIE2G to 0;
If HFIE11 = 0 then set HFIE11A, HFIE11C, HFIE11D to 0;
If HFIE14 = 0 then set HFIE14A, HFIE14C, HFIE14E, HFIE14F, HFIE14G, HFIE14H to 0;
If HFIE22 = 0 then set HFIE22A, HFIE22B, HFIE22C, HFIE22D, HFIE22E to 0;
If more than 3 variables (>20% of the variables) in (HFIE2G, HFIE11A, HFIE11C, HFIE11D, HFIE14A, HFIE14C, HFIE14E, HFIE14F, HFIE14G, HFIE14H, HFIE22A, HFIE22B, HFIE22C, HFIE22D, HFIE22E) are missing then set COUNT_HFHS to missing;
Else COUNT_HFHS = Sum of (HFIE2G, HFIE11A, HFIE11C, HFIE11D, HFIE14A, HFIE14C, HFIE14E, HFIE14F, HFIE14G, HFIE14H, HFIE22A, HFIE22B, HFIE22C, HFIE22D, HFIE22E);

Source variable(s):
HFIE2. Have milk/dairy at home
HFIE2G. Have chocolate or flavored milk at home
HFIE11. Have frozen desserts (Ice cream/yogurt type only) at home
HFIE11A. Have regular ice cream (any flavor) at home
HFIE11C. Have frozen yogurt (any flavor) at home
HFIE11D. Have frozen treats made with ice cream or pudding at home
HFIE14. Have prepared desserts at home
HFIE14A. Have regular cookies (any flavor/variety) at home
HFIE14C. Have regular cake/cupcakes (any flavor) at home
HFIE14E. Have regular muffins (any flavor/variety) at home
HFIE14F. Have brownies/bars (any variety) at home
HFIE14G. Have other snack cakes (any variety) at home
HFIE14H. Have pastry, sweet rolls, donuts at home
HFIE22. Have candy at home
HFIE22A. Have chocolate candy (any variety, except chocolate exclusively for baking) at home
HFIE22B. Have hard candy at home
HFIE22C: Have gummies at home
HFIE22D: Have fruit rollups, fruit snacks or other fruit-based candy at home
HFIE22E: Have chewy candy (example: Skittles, caramel) at home

8. PARENTAL FEEDING BEHAVIOR

8.1. DEMANDINGNESS (Demanding Parental Feeding Style score)

This continuous variable represents the level of control/demandingness in parental feeding style, ranging from 1 to 5. It is calculated as the mean value of the 19 items in the instrument assessing demandingness according to the typological approach for scoring the child feeding style items in Sheryl O. Hughes Lab. These items are from the Caregiver's Feeding Style Questionnaire (CFSE) and measure the demanding caregiver's feeding style on a 5-point Likert scale.

Reference:
Hughes Lab Questionnaires. Baylor College of Medicine. Accessed July 23, 2024. https://www.bcm.edu/research/faculty-labs/sheryl-o-hughes-lab/questionnaires.

Algorithm:
If more than 4 items of the source variables (i.e. more than 20% of the variables) are missing then set DEMANDINGNESS to missing;
Else DEMANDINGNESS = average of the non-missing items of CFSE1 through CFSE19;

Response format for CFSE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Most of the Time
5 = Always

Source variable(s):
CFSE1. Physically struggle with the child to get her/him to eat
CFSE2. Promise the child something other than food if s/he eats
CFSE3. Encourage the child to eat by arranging the food to make it more interesting
CFSE4. Ask the child questions about the food during dinner
CFSE5. Tell the child to eat at least a little bit of food on her/his plate
CFSE6. Reason with the child to get her/him to eat
CFSE7. Say something to show your disapproval of the child for not eating dinner
CFSE8. Allow the child to choose the foods s/he wants to eat for dinner from foods already prepared
CFSE9. Compliment the child for eating food
CFSE10. Suggest to the child that s/he eats dinner
CFSE11. Say to the child "Hurry up and eat your food"
CFSE12. Warn the child that you will take away something other than food if s/he doesn't eat
CFSE13. Tell the child to eat something on the plate
CFSE14. Warn the child that you will take a food away if the child doesn't eat
CFSE15. Say something positive about the food the child is eating during dinner
CFSE16. Spoon-feed the child to get her/him to eat dinner

CFSE17. Help the child to eat dinner
CFSE18. Encourage the child to eat something by using food as a reward
CFSE19. Beg the child to eat dinner.

8.2. RESPONSIVENESS (Responsive Parental Feeding Style score)

This continuous variable represents the level of parent warmth/responsiveness. It is calculated as the mean value of the 7 child-centered items divided by the mean value of the 19 items on the Caregiver's Feeding Style Questionnaire (CFSE), according to the typological approach in Sheryl O. Hughes Lab. These CFSE items assess the caregiver's feeding style on a 5-point Likert scale.

Reference:
Hughes Lab Questionnaires. Baylor College of Medicine. Accessed July 23, 2024. https://www.bcm.edu/research/faculty-labs/sheryl-o-hughes-lab/questionnaires.

Algorithm:
If more than 4 source variables (i.e. > 20% items are missing) are missing then set RESPONSIVENESS to missing;
Else RESPONSIVENESS = (average of the non-missing child-centered items of CFSE3, CFSE4, CFSE6, CFSE8, CFSE9, CFSE15, CSFE17) divided by (average of the non-missing items of CFSE1 through CFSE19);

Response format for CFSE questions:
1 = Never
2 = Rarely
3 = Sometimes
4 = Most of the Time
5 = Always

Source variable(s):
CFSE1. Physically struggle with the child to get her/him to eat
CFSE2. Promise the child something other than food if s/he eats
CFSE3. Encourage the child to eat by arranging the food to make it more interesting
CFSE4. Ask the child questions about the food during dinner
CFSE5. Tell the child to eat at least a little bit of food on her/his plate
CFSE6. Reason with the child to get her/him to eat
CFSE7. Say something to show your disapproval of the child for not eating dinner
CFSE8. Allow the child to choose the foods s/he wants to eat for dinner from foods already prepared
CFSE9. Compliment the child for eating food
CFSE10. Suggest to the child that s/he eats dinner
CFSE11. Say to the child "Hurry up and eat your food"
CFSE12. Warn the child that you will take away something other than food if s/he doesn't eat
CFSE13. Tell the child to eat something on the plate
CFSE14. Warn the child that you will take a food away if the child doesn't eat

CFSE15. Say something positive about the food the child is eating during dinner
CFSE16. Spoon-feed the child to get her/him to eat dinner
CFSE17. Help the child to eat dinner
CFSE18. Encourage the child to eat something by using food as a reward
CFSE19. Beg the child to eat dinner.

8.3. PARENTAL_STYLE (Parental Feeding Style)

This integer variable ranges from 1 to 4, representing the four categories of parental feeding style: authoritative, authoritarian, indulgent, and uninvolved. The categorization is determined using a median-split criterion (median of DEMANDINGNESS = 2.631579; median of RESPONSIVENESS = 1.216749) based on both demandingness and responsiveness scores.

Reference:
Hughes, S. O., Power, T. G., Fisher, J. O., Mueller, S., & Nicklas, T. A. (2005). Revisiting a neglected construct: parenting styles in a child-feeding context. Appetite, 44(1), 83-92.

Algorithm:

If any of the source variables have missing values then set PARENTAL_STYLE to missing;

If DEMANDINGNESS > 2.631579 and RESPONSIVENESS > 1.216749 then PARENTAL_STYLE = 1;

If DEMANDINGNESS > 2.631579 and RESPONSIVENESS <= 1.216749 then PARENTAL_STYLE = 2;

If DEMANDINGNESS <= 2.631579 and RESPONSIVENESS > 1.216749 then PARENTAL_STYLE = 3;

If DEMANDINGNESS <= 2.631579 and RESPONSIVENESS <= 1.216749 then PARENTAL_STYLE = 4;

Response Format: 1 = Authoritative
2 = Authoritarian
3 = Indulgent
4 = Uninvolved
. = missing

Source variable(s):
DEMANDINGNESS. Demanding Parental Feeding Style score
RESPONSIVENESS. Responsive Parental Feeding Style score

8.4. PARENTAL_STYLE_H (Parental Feeding Style Using Hughes Cutoff Points)

This integer variable ranges from 1 to 4, representing the four categories of the parental feeding style: authoritative, authoritarian, indulgent, and uninvolved. The categorization is determined using cutoff points of 2.82 for Demandingness and 1.16 for Responsiveness, suggested by Hughes (2012).

Reference:
Hughes, S. O., Cross, M. B., Hennessy, E., Tovar, A., Economos, C. D., & Power, T. G. (2012). Caregiver's feeding styles questionnaire. Establishing cutoff points. Appetite, 58(1), 393-395.

Algorithm:
If any of the source variables have missing values then set PARENTAL_STYLE_H to missing;

If DEMANDINGNESS > 2.82 and RESPONSIVENESS > 1.16 then PARENTAL_STYLE_H = 1;

If DEMANDINGNESS > 2.82 and RESPONSIVENESS <= 1.16 then PARENTAL_STYLE_H = 2;

If DEMANDINGNESS <= 2.82 and RESPONSIVENESS > 1.16 then PARENTAL_STYLE_H = 3;

If DEMANDINGNESS <= 2.82 and RESPONSIVENESS <= 1.16 then PARENTAL_STYLE_H = 4;

Response Format: 1 = Authoritative
2 = Authoritarian
3 = Indulgent
4 = Uninvolved
. = missing

Source variable(s):
DEMANDINGNESS. Demanding Parental Feeding Style score
RESPONSIVENESS. Responsive Parental Feeding Style score

9. NUTRITION - HEALTHY EATING INDEX 2010 (HEI-2010)

9.1. HEI2010 (Healthy Eating Index - 2010)

The Healthy Eating Index-2010 (HEI-2010; Guenther et al., 2013) is a measure of overall diet quality, independent of quantity, which can be used to assess compliance with the *2010 Dietary Guidelines for Americans* and to monitor changes in dietary patterns. It includes twelve dietary components (nine adequacy and three moderation components) that reflect key aspects of diet quality, including fruit, vegetables, grains, dairy, protein foods, fatty acids, sodium, and empty calories. Table 1 lists the components, the optimal (maximum) number of points, and the criteria for assignment of the lowest and highest possible scores for each component. Components scores can range from 0-5, 0-10, or 0-20, and HEI-2010 score ranges from 0 to 100 with a higher score indicating greater consistency of the diet with the *2010 Dietary Guidelines for Americans*. The performance of the HEI-2010 has been evaluated through an assessment of its content validity, construct validity, and reliability.

Table 1. Optimum score and standard for maximum and minimum scores for each 2010 HEI component

2010 HEI Component	Optimum score	Standard for maximum score (optimum)	Standard for minimum score of zero
Adequacy			
1. Total Fruit[a]	5	≥ 0.8 cup equiv/1,000 kcal	No fruit
2. Whole Fruit[b]	5	≥ 0.4 cup equiv /1,000 kcal	No whole fruit
3. Total Vegetables[c]	5	≥ 1.1 cup equiv/1,000 kcal	No vegetables
4. Greens and Beans[c]	5	≥ 0.2 cup equiv/1,000 kcal	No dark green vegetables, beans or peas
5. Whole Grains	10	≥ 1.5 oz equiv/1,000 kcal	No whole grains
6. Dairy[d]	10	≥ 1.3 cup equiv/1,000 kcal	No dairy
7. Total Protein Foods[e]	5	≥ 2.5 oz equiv/1,000 kcal	No protein foods
8. Seafood and Plant Proteins[ef]	5	≥ 0.8 oz equiv/1,000 kcal	No seafood or plant protein
9. Fatty Acids[g]	10	(PUFAs+MUFAs)/SFAs >2.5	(PUFAs+MUFAs)/SFAs ≤1.2
Moderation			
10. Refined Grains	10	≤ 1.8 oz equiv/1,000 kcal	≥ 4.3 oz equiv/ 1,000 kcal
11. Sodium	10	≤ 1.1 gram/1,000 kcal	≥ 2.0 gram / 1,000 kcal
12. Empty Calories[h]	20	≤ 19% of energy	≥ 50% of energy

a Includes 100% fruit juice.
b Includes all forms except fruit juice.
c Includes any beans and peas not counted as Total Protein Foods.
d Includes all milk products, such as fluid milk, yogurt, cheese, and fortified soy beverages.
e Beans and peas are included here (and not with vegetables) when the Total Protein Foods standard is otherwise not met.
f Includes seafood, nuts, seeds, soy products (other than beverages) as well as beans and peas counted as Total Protein Foods.
g Includes seafood, nuts, seeds, soy products (other than beverages) as well as beans and peas counted as Total Protein Foods.
h Calories from solid fats, alcohol, and added sugars; threshold for counting alcohol is >13 g/1000 kcal.

In SOL FLOR, the HEI-2010 was calculated from the average of available 24hr dietary recall data. At least one dietary recall is required to calculate the HEI-2010 score. From the 291 SOL FLOR children, 202 (69%) have both dietary recalls and 16 children have none. Dietary recalls were excluded when the daily energy intake (variable F04A20) was considered too extreme (defined as below the age group-sequence-sex specific 1st percentile or above the 99th percentile) or because the recall was not reliable according to the staff (F04A16). Children with at least one dietary recall have a HEI-2010 score; after exclusion, 22 children have no reliable 24hr dietary recalls and 184 (63%) children had it calculated using both recalls.

Table 2. Energy intake (kcal/day) percentiles 1 and 99 by age group, dietary recall, and sex, SOL FLOR

Age group	Recall	Sex	N	Percentile 1	Percentile 99
3-5 years	1st	Girl	25	677.21	2561.27
3-5 years	2nd	Girl	19	772.39	4135.05
3-5 years	1st	Boy	20	978.61	2564.30
3-5 years	2nd	Boy	10	530.51	2383.68
6-10 years	1st	Girl	123	692.47	2846.27
6-10 years	2nd	Girl	90	498.54	3901.53
6-10 years	1st	Boy	107	645.12	3032.37
6-10 years	2nd	Boy	83	651.31	3065.39
Total			477		

We followed four general steps to calculate the HEI-2010:

1. Quantify each of the 12 components at the dietary recall level.
2. Average available dietary recalls.
3. Score each component
4. Compute the HEI-2010 score as the sum of scores for individual 12 components.

We used the “NDSR Guide to Create Variables Needed to Calculate Scores for Each Component of the HEI-2010” developed by the Nutrition Coordinating Center (NCC) at University of Minnesota, Minneapolis, MN. Table 3 has the specific NDSR food subgroups used to define each component of HEI-2010. Specifically, for 10 components we calculated the food groups in cup equivalents per day, and then calculated food group density by dividing by daily energy intake per 1,000kcal. Empty calories was expressed as a percentage of total energy intake, and fatty acids as a ratio of polyunsaturated fatty acids (PUFAS) and monounsaturated (MUFAS) of total saturated fatty acids (SFAs). The scores for each individual component were computed according to the formulas given in Table 1. Intermediate intakes were scored proportionately between zero and the maximum score.

For each component (e.g. total fruits) we are releasing its score (e.g. HEI1) plus intermediate variables used to calculate it (at recall level, averaged, cups equivalents, cups equivalents/1,000 kcal).

Units	1st recall	2nd recall	Average
cup equivalents per day	TOT_FRUIT_R1	TOT_FRUIT_R2	TOT_FRUIT_AVG
cup equivalents/1,000 kcal per day	TOT_FRUIT_DEN_R1	TOT_FRUIT_DEN_R2	TOT_FRUIT_DEN_AVG

References

- Guenther PM, Kirkpatrick SI, Reedy J, Krebs-Smith SM, Buckman DW, Dodd KW, Casavale KO, Carroll RJ. The Healthy Eating Index-2010 is a valid and reliable measure of diet quality according to the 2010 Dietary Guidelines for Americans. J Nutr. 2014 Mar;144(3):399-407.
- Guenther PM, Casavale KO, Reedy J, Kirkpatrick SI, Hiza HA, Kuczynski KJ, Kahle LL, Krebs-Smith SM. Update of the Healthy Eating Index: HEI-2010. J Acad Nutr Diet. 2013 Apr;113(4):569-80.
- NDSR Guide to Creating Variables Needed to Calculate Scores for Each Component of the Healthy Eating Index-2010 (HEI-2010) developed by the Nutrition Coordinating Center (NCC), University of Minnesota, Minneapolis, MN

Table 3. Definition of HEI-2010 components using HCHS/SOL variables from 24hr dietary recalls.		
Variable	Label	Definition
TOT_PROTEIN_V1 (V1 stands for version 1, without legumes)	Total Protein Foods (ounce equivalents) without legumes	sum (MEAT_RED, MEAT_LUNCH, MEAT_POUL, MEAT_FISH, MEAT_ORG, MEAT_EGG, MEAT_NUT, F09A77, F09A83)
TOT_PROTEIN_V2 (V2 stands for version 2, without legumes)	Total protein foods (ounce equivalents) with legumes	sum(MEAT_RED, MEAT_LUNCH, MEAT_POUL, MEAT_FISH, MEAT_ORG, MEAT_EGG, MEAT_NUT, F09A77, F09A83, [F09A17*2]]
TOT_PROTEIN_STANDARD	Total protein foods standard is met	If (TOT_PROTEIN_V1 / (F04A20/1000))>=2.5 then TOT_PROTEIN_STANDARD = 1 ELSE TOT_PROTEIN_STANDARD = 0
ALLOWABLE_ALCOHOL	Allowable alcohol for Empty Calories (g)	F04A20*0.013
EXCESS_ALCOHOL	Excess alcohol for Empty Calories (kcal)	If .Z<F04A26 <= ALLOWABLE_ALCOHOL then EXCESS_ALCOHOL=0 If F04A26 > ALLOWABLE_ALCOHOL then EXCESS_ALCOHOL=((F04A26 - ALLOWABLE_ALCOHOL)*7)
TOT_FRUIT	Total fruit (cup equivalents)	FRUIT_ALL / 2
WHOLE_FRUIT	Whole fruit (cup equivalents)	sum(F09A6, F09A7, F09A8, F09A9, F09A10)/2
TOT_VEG	Total vegetables (cup equivalents)	sum(F09A11, F09A12, F09A13, F09A14, F09A15, F09A16, F09A17*(TOT_PROTEIN_STANDARD) + F09A18, F09A19, F09A20) /2
GREENS_BEAN	Greens and beans (cup equivalents)	[F09A11 + F09A17*(TOT_PROTEIN_STANDARD)]/2
WHOLE_GRAINS	Whole grains (ounce equivalents)	sum[F09A22 , F09A25 , F09A28 , F09A31 , F09A34 , F09A37, F09A40, F09A43, F09A46, F09A49, F09A52, F09A53]
DAIRY	Dairy (cup equivalents)	sum[F09A84, F09A85, F09A86, F09A87, F09A88, F09A89, F09A90, F09A91 ,F09A92, F09A95, F09A96, F09A97, F09A98, F09A99, F09A100, F09A101, F09A102, F09A103, F09A104, F09A105, [F09A106/3], F09A108 , F09A109, F09A114, F09A115]
TOT_PROTEIN	Total Protein Foods (ounce equivalents)	If TOT_PROTEIN_STANDARD = 1 then TOT_PROTEIN=TOT_PROTEIN_V1 Else TOT_PROTEIN=TOT_PROTEIN_V2
SEA_PLANT_PROTEIN	Seafood and Plant Proteins (ounce equivalents)	sum(MEAT_FISH ,MEAT_NUT, F09A83, [F09A17* 2]*(1-TOT_PROTEIN_STANDARD)
FATTY_ACIDS	Fatty acids (ratio)	sum(F04A30, F04A29) / F04A28
REFINED_GRAINS	Refined grains (ounce equivalents)	sum [F09A23, F09A24, F09A26, F09A27, F09A29, F09A30, F09A32, F09A33, F09A35,F09A36, F09A38, F09A39, F09A41, F09A42, F09A44, F09A45, F09A47, F09A48, F09A50, F09A51, F09A54]
SODIUM	Sodium (grams)	F04A67/1000
EMPTY_CALS	Empty calories (from solid fats, alcohol above>13 g/1,000 kcal, and added sugars)	sum((F04A28*9), (F04A132*9), (F04A184*4), EXCESS_ALCOHOL
EMPTY_CALS_PCT	Empty calories percent of total calories	(EMPTY_CALS/F04A20)*100
TOT_FRUIT_DEN Similar density variables for the other components except for FATTY_ACIDS and EMPTY_CALORIES	Total fruit density (cup equivalents per 1000 kcal)	TOT_FRUIT / (F04A20/1000)