Supplemental material

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Description of the online survey

The online survey was designed for self-administration and was developed using the open-source software LimeSurvey (LimeSurvey GmbH, Hamburg, Germany). During the development of the survey, we administered a first online draft to a sample of 36 volunteer students (aged between 14-16) to test their level of understanding and estimate time for completion.

SECTION A (2 questions): the first question was digital informed consent; only students agreeing to study procedures could access the other survey questions. The second question in this section was about age. Participants aged less than 13 years old were automatically excluded from the survey.

SECTION B (4 questions): gender, high school attended, and self-reported weight (kg) and height (cm).

SECTION C (4 questions about housing): how many people living with the students in the same house, number of rooms, and presence of garden or terrace.

SECTION D (6 questions about parents' education and employment): education level and occupation with possible change in occupation during the pandemic, of mother, father and other working people living with the student.

SECTION E (56 questions about eating habits): attitudes about meal sharing and planning, with possible change during pandemic, food insecurity, frequency of ultra-processed food consumption, cooking skills and self-perception about change in the amount of food consumed, in diet quality and in weight during the pandemic. The main core of this section concerned the change in the frequency of consumption of 44 foods, compared to the pre-pandemic period. An example of questions in this core section was: "compared to the pre-pandemic period, your consumption of "fruit" has now: "increased", "decreased", "remained unchanged", or "I usually don't eat this food category".

SECTION F (26 questions about other aspects of lifestyle): change in type and duration of physical activity, sports activity, duration and quality of sleep, duration and type of screen activity (for school, out of boredom, for fun) and smoking. The level of physical activity was evaluated asking students how much time they dedicated to light, moderate and vigorous activity from the beginning of the pandemic. For each level the possible responses were "0-15 minutes", "16-30 minutes", "31-60 minutes", and "> 60 minutes". WHO recommends that children and adolescents should do at least an average of 60 minutes per day of moderate-

to vigorous-intensity, mostly aerobic, physical activity, across the week (WHO guidelines on physical activity and sedentary behaviour, 2020). Based on these recommendations, we combined the responses to create a binary variable where "active" refers to adolescents who met WHO recommendation. Smartphone addiction was evaluated using the Smartphone Addiction Scale - Short Version (SAS-SV) [1] that consisted of 10 items on a six-point Likert scale from 1 ("Strongly disagree") to 6 ("Strongly agree"). The total score ranges from 10 to 60, with higher scores reflecting higher problematic use of a smartphone. The Italian version was validated by De Pasquale et al. [2] maintaining the original cut-off score indicating probable smartphone addiction (31 for males and 33 for females).

SECTION G (6 questions about emotions): 3 questions of the Matthey Generic Mood Questionnaire (MGMQ-it) [16] were used. MGMQ is a brief questionnaire designed to screen for a wide variety of emotions, not just depression or anxiety in the last two weeks. The questions used were the Q1. Di-stress question: "Have you felt very stressed, anxious, or unhappy, or found it difficult to cope, for some of the time?' (response options: 'Yes', 'Possibly', 'No'); and the Q2. Impact question: 'How bothered have you been by these feelings?' (response options: 'Not at all'; 'A little bit'; 'Moderately'; 'A lot'). A response of 'Moderately' or 'A lot' to the Impact Question is considered a positive screening for a condition of clinical distress [3,4]. The third question is an open-ended and optional question of the survey, where students who were willing to express their own feelings could explain the reasons for their anxiety or depression.

SECTION H (6 questions about nutrition knowledge): 6 questions from the validated Italian version of the Moynihan questionnaire [5].

References

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Score assignment for calculation of Eating Habit Index (EHI).

Change in consumption frequencies	Eating Habit Index (EHI)	
	Healthy Foods	**Unhealthy Foods**
Do not consume	0	3
Unchanged	2	1
Reduced	1	2
Increased	3	0
Food List	Fruit	Chips
	Vegetables	Packaged industrial bread
	Nuts	Frozen pizza
	Home-made bread	Industrial pastry
	Fish	Sweets
	Legumes	Salami
	Yogurt	Sauces
	Poultry	Soft-drinks
	Olive Oil	Butter