Table S1. Additional files. Appetite sensation between T0 and T1 for the whole sample and MS and non-MS subsamples.

|                          | Whole sample | MS | Non-MS | Group | Time | Interaction |
|--------------------------|--------------|----|--------|-------|------|-------------|
|                          | T0           | T1 | p      | T0    | T1   |             |
| Fasting Hunger (mm)      | 85 ± 111     | 88 ± 41 | 0,008  | 94 ± 24 | 88 ± 42 | 75 ± 38 | 88 ± 40 | 0,828 | 0,007 | 0,680 |
| Pre Lunch Hunger (mm)    | 88 ± 42      | 97 ± 38 | 0,04   | 96 ± 6  | 102 ± 38 | 80 ± 6  | 93 ± 37 | 0,109 | 0,047 | 0,600 |
| Pre Diner Hunger (mm)    | 87 ± 38      | 92 ± 34 | 0,22   | 95 ± 6  | 102 ± 31 | 79 ± 5  | 83 ± 35 | 0,008 | 0,211 | 0,515 |
| Fasting Fullness (mm)    | 26 ± 34      | 17 ± 25 | 0,04   | 20 ± 4  | 16 ± 24  | 31 ± 6  | 17 ± 25 | 0,409 | 0,043 | 0,305 |
| Pre Lunch Fullness (mm)  | 25 ± 34      | 25 ± 35 | 0,98   | 26 ± 5  | 27 ± 37  | 24 ± 5  | 23 ± 33 | 0,226 | 0,977 | 0,701 |
| Pre Diner Fullness (mm)  | 30 ± 37      | 28 ± 39 | 0,65   | 26 ± 4  | 28 ± 40  | 34 ± 6  | 28 ± 39 | 0,868 | 0,719 | 0,404 |
| Fasting PFC (mm)         | 71 ± 40      | 83 ± 38 | 0,03   | 74 ± 6  | 89 ± 37  | 69 ± 6  | 78 ± 39 | 0,347 | 0,015 | 0,513 |
| Pre Lunch PFC (mm)       | 83 ± 40      | 91 ± 40 | 0,08   | 92 ± 6  | 99 ± 37  | 73 ± 6  | 85 ± 42 | 0,062 | 0,043 | 0,610 |
| Pre Diner PFC (mm)       | 87 ± 38      | 85 ± 39 | 0,67   | 100 ± 5 | 96 ± 36  | 75 ± 5a | 76 ± 39 | 0,002 | 0,660 | 0,805 |
| Fasting DTE (mm)         | 94 ± 36      | 105 ± 40 | 0,07   | 88 ± 7  | 104 ± 40 | 103 ± 5 | 106 ± 42 | 0,555 | 0,095 | 0,373 |
| Pre Lunch DTE (mm)       | 105 ± 36     | 106 ± 37 | 0,59   | 107 ± 7 | 108 ± 36 | 103 ± 7 | 102 ± 39 | 0,486 | 0,564 | 0,738 |
| Pre Diner DTE (mm)       | 99 ± 39      | 93 ± 46 | 0,57   | 104 ± 6 | 101 ± 44 | 94 ± 9  | 83 ± 47 | 0,085 | 0,558 | 0,889 |
| AUC Hunger (mm)          | 48687 ± 21101 | 52627 ± 17,015 | 0,09   | 53589 ± 21540 | 56313 ± 16061 | 45062 ± 20742 | 49530 ± 17272 | 0,041 | 0,094 | 0,940 |
| AUC Fullness (mm)        | 30420 ± 18053 | 29741 ± 16798 | 0,76   | 31451 ± 17642 | 27795 ± 17132 | 19419 ± 3419 | 55669 ± 17511 | 0,195 | 0,786 | 0,329 |
| AUC PFC (mm)             | 49822 ± 19099 | 51486 ± 17523 | 0,46   | 49822 ± 17510 | 47459 ± 18865 | 21624 ± 54733 | 14585 ± 60414 | 0,013 | 0,466 | 0,884 |
| AUC DTE (mm)             | 58273 ± 17765 | 57445 ± 18156 | 0,75   | 58273 ± 61173 | 52932 ± 21230 | 19616 ± 16022 | 14766 ± 21624 | 0,106 | 0,742 | 0,854 |

T0: Baseline; T1: end of the intervention; p: level of significance; MS: Metabolic syndrome at baseline; Non-MS: No Metabolic syndrome at baseline; PFC: Prospective Food Consumption; DTE: Desire To Eat; ***: p<0.001 between T0 and T1; a: p<0.05 between MS and Non-MS; b: p<0.01 between MS and Non-MS; c: p<0.001 between MS and Non-MS.
### Table S2. Additional files. Appetite sensation between Persistent vs. non-persistent adolescents at T1 and between non-MS T0 and non-Persistent at T1.

|                              | Persistent | Non-Preistent | p     | Non-MS T0 | Non-Persistent T1 | p     |
|------------------------------|------------|---------------|-------|-----------|-------------------|-------|
| **Fasting Hunger (mm)**      | 78 ± 9     | 100 ± 9       | 0.1029| 75 ± 38   | 100 ± 9           | 0.029 |
| **Pre Lunch Hunger (mm)**    | 110 ± 7    | 93 ± 10       | 0.1685| 80 ± 6    | 93 ± 10           | 0.300 |
| **Pre Diner Hunger (mm)**    | 104 ± 7    | 100 ± 6       | 0.6853| 79 ± 5    | 100 ± 6           | 0.017 |
| **Fasting Fullness (mm)**    | 15 ± 5     | 18 ± 6        | 0.7193| 31 ± 6    | 18 ± 6            | 0.141 |
| **Pre Lunch Fullness (mm)**  | 23 ± 7     | 32 ± 9        | 0.4864| 24 ± 5    | 32 ± 9            | 0.442 |
| **Pre Diner Fullness (mm)**  | 27 ± 9     | 29 ± 9        | 0.8990| 34 ± 6    | 29 ± 9            | 0.647 |
| **Fasting PFC (mm)**         | 86 ± 7     | 92 ± 9        | 0.6844| 69 ± 6    | 92 ± 9            | 0.060 |
| **Pre Lunch PFC (mm)**       | 107 ± 7    | 89 ± 9        | 0.1326| 73 ± 6    | 89 ± 9            | 0.184 |
| **Pre Diner PFC (mm)**       | 101 ± 8    | 90 ± 8        | 0.3369| 75 ± 5    | 90 ± 8            | 0.161 |
| **Fasting DTE (mm)**         | 100 ± 8    | 110 ± 11      | 0.5092| 103 ± 5   | 110 ± 11          | 0.591 |
| **Pre Lunch DTE (mm)**       | 121 ± 4    | 90 ± 12       | 0.0310| 103 ± 7   | 90 ± 12           | 0.399 |
| **Pre Diner DTE (mm)**       | 105 ± 9    | 94 ± 12       | 0.4897| 94 ± 9    | 94 ± 12           | 0.887 |
| **AUC Hunger (mm)**          | 58781 ± 16390 | 53435 ± 15630 | 0.306 | 45062 ± 20742 | 53435 ± 15630 | 0.13  |
| **AUC Fullness (mm)**        | 33242 ± 18126 | 31750 ± 17265 | 0.792 | 30425 ± 19419 | 31750 ± 17265 | 0.80  |
| **AUC PFC (mm)**             | 57865 ± 16404 | 52956 ± 11893 | 0.309 | 43419 ± 21624 | 52956 ± 11893 | 0.09  |
| **AUC DTE (mm)**             | 63332 ± 13290 | 56150 ± 16283 | 0.181 | 54733 ± 19616 | 56150 ± 16283 | 0.83  |

*0: Baseline; T1: end of the intervention; p: level of significance; Non-MS: No Metabolic syndrome at baseline; PFC: Prospective Food Consumption; DTE: Desir To Eat*