**Supplemental Table 1. Description of the included and excluded subjects participating in the IDEFICS baseline study (T0).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Included** |  | **Excluded** |  |  |
|  | **n** | **%** | **n** | **%** | **p-value** |
| Total | 8341 |  | 7383 |  |  |
| Gender |  |  |  |  |  |
| Boys | 4133 | 50 | 3818 | 52 | 0.007 |
| Girls | 4208 | 50 | 3565 | 48 |  |
| Age |  |  |  |  |  |
| <6 years | 3901 | 47 | 3417 | 46 | 0.536 |
| ≥6 years | 4440 | 53 | 3966 | 54 |  |
| BMI categories |  |  |  |  |  |
| Underweight | 958 | 12 | 860 | 12 | <0.001 |
| Normal weight | 5859 | 70 | 4972 | 67 |  |
| Overweight | 997 | 12 | 972 | 13 |  |
| Obese | 528 | 6 | 579 | 8 |  |
| Parental Education |  |  |  |  |  |
| Low | 561 | 7 | 693 | 10 | <0.001 |
| Medium | 4255 | 52 | 3538 | 53 |  |
| High | 3400 | 41 | 2474 | 40 |  |

Supplemental Table 2. Mean (standard deviation) z-scores of relative consumption frequencies in the three clusters at baseline (T0)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Food item | Processed  n 4427 | | Sweet  n 1910 | | Healthy  n 2964 | |
|  | Mean | SD | Mean | SD | Mean | SD |
| Cooked vegetables, potatoes, beans | -0,36†c | 0,74 | 0,42\*a | 1,06 | 0,27b | 1,10 |
| Fried potatoes, potato croquettes | 0,21\*a | 1,13 | 0,08b | 0,95 | -0,37†c | 0,67 |
| Raw vegetables | -0,32b | 0,72 | -0,35†b | 0,73 | 0,70\*a | 1,15 |
| Fresh fruits without added sugar | -0,24b | 0,88 | -0,24†b | 0,81 | 0,51\*a | 1,09 |
| Fresh fruits with added sugar | 0,23\*a | 1,19 | -0,17b | 0,73 | -0,24†b | 0,73 |
| Water | 0,21\*a | 0,98 | -0,49†c | 0,99 | 0,00b | 0,92 |
| Fruit juices | 0,08b | 1,02 | 0,21\*a | 1,15 | -0,26†c | 0,79 |
| Sweetened drinks | -0,10b | 0,76 | 0,58\*a | 1,64 | -0,22†c | 0,50 |
| Diet drinks | -0,14b | 0,45 | 0,59\*a | 1,95 | -0,17†b | 0,33 |
| Breakfast cereals, muesli, sweetened | 0,15\*a | 1,09 | 0,10a | 1,01 | -0,29†b | 0,76 |
| Porridge, oat meal, gruel, cereals, muesli, unsweetened | -0,21b | 0,72 | -0,40†c | 0,49 | 0,57\*a | 1,31 |
| Plain unsweetened milk | -0,22b | 0,90 | -0,23†b | 0,83 | 0,48\*a | 1,07 |
| Sweetened milk | 0,29\*a | 1,13 | -0,02b | 0,94 | -0,42†c | 0,60 |
| Plain unsweetened yoghurt or kefir | -0,08b | 0,85 | -0,29†c | 0,66 | 0,31\*a | 1,27 |
| Sweet yoghurt, fermented milk beverages | -0,01b | 1,02 | 0,16\*a | 1,02 | -0,09†c | 0,94 |
| Fresh or frozen fish, not fried | 0,02b | 1,00 | -0,33c | 0,80 | 0,19\*a | 1,07 |
| Fried fish, fish fingers | 0,03\*a | 1,02 | -0,06b | 0,94 | -0,01a | 1,00 |
| Cold cuts, preserved, ready to cook meat products | -0,04b | 0,87 | 0,60\*a | 1,19 | -0,32†c | 0,86 |
| Fresh meat, not fried | 0,21\*a | 1,01 | -0,30†c | 0,96 | -0,12b | 0,95 |
| Fried meat | -0,15†c | 0,96 | 0,35\*a | 1,09 | 0,00b | 0,95 |
| Fried or scrambled eggs | 0,25\*a | 1,09 | -0,26†b | 0,82 | -0,21b | 0,85 |
| Boiled or poached eggs | 0,07\*a | 1,27 | -0,14†c | 0,72 | -0,02b | 0,62 |
| Mayonnaise, mayonnaise based products | -0,04b | 0,86 | 0,52\*a | 1,53 | -0,28c | 0,52 |
| Cheese | 0,07\*a | 1,05 | -0,17†c | 0,90 | 0,00b | 0,98 |
| Jam, honey | -0,08†b | 0,90 | 0,29\*a | 1,24 | -0,07b | 0,94 |
| Chocolate or nut based spread | -0,11b | 0,72 | 0,95\*a | 1,44 | -0,44†c | 0,48 |
| Butter, margarine on bread | -0,08†b | 0,88 | 0,03a | 1,09 | 0,10\*a | 1,09 |
| Reduced-fat products on bread | -0,28†c | 0,58 | 0,13b | 1,12 | 0,34\*a | 1,26 |
| Ketchup | -0,07†c | 1,00 | 0,11\*a | 1,04 | 0,03b | 0,97 |
| White bread, white roll, white crispbread | 0,31\*a | 1,06 | -0,08b | 0,96 | -0,42†c | 0,74 |
| Whole meal bread, dark roll, dark crispbread | -0,36†c | 0,73 | 0,27b | 1,17 | 0,37\*a | 1,04 |
| Pasta, noodles, rice | -0,03b | 1,04 | -0,27†c | 0,72 | 0,22\*a | 1,04 |
| Dish of milled cereals | 0,03b | 1,06 | -0,22†c | 0,55 | 0,10\*a | 1,10 |
| Pizza as main dish | 0,23\*a | 1,22 | -0,12b | 0,81 | -0,27†c | 0,58 |
| Hamburger, hot dog, kebab, wrap, falafel | 0,32\*a | 1,16 | -0,48†c | 0,52 | -0,17b | 0,79 |
| Nuts, seeds, dried fruits | 0,01b | 0,95 | -0,27†c | 0,69 | 0,16\*a | 1,19 |
| Crisps, corn crisps, popcorn | 0,20\*a | 1,13 | -0,04b | 0,92 | -0,26†c | 0,74 |
| Savoury pastries, fritters | 0,37\*a | 1,20 | -0,38†b | 0,55 | -0,31b | 0,62 |
| Chocolate, candy bars | 0,19\*a | 1,10 | 0,13a | 1,10 | -0,37†b | 0,60 |
| Candies, loose candies, marshmallows | -0,17b | 0,78 | 0,72\*a | 1,48 | -0,20†b | 0,63 |
| Biscuits, packaged cakes, pastries, puddings | -0,15b | 0,86 | 0,70\*a | 1,30 | -0,24†c | 0,73 |
| Ice cream, milk or fruit based bars | 0,12\*a | 1,14 | -0,16†c | 0,92 | -0,07b | 0,78 |

a,b,c, Mean values within a row with unlike superscript letters were significantly different between clusters (P,0·05).

\* Highest mean value in the row.† Lowest mean value in the row.

Supplemental Table 3. Mean (standard deviation) z-scores of relative consumption frequencies in the three clusters at follow-up (T1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Food items | Processed  n 2554 | | Sweet  n 1939 | | Healthy  n 4808 | |
|  | Mean | SD | Mean | SD | Mean | SD |
| Cooked vegetables, potatoes, beans | -0,45†c | 0,64 | 0,31\*a | 1,12 | 0,11b | 1,02 |
| Fried potatoes, potato croquettes | 0,42\*a | 1,22 | 0,16b | 1,01 | -0,29†c | 0,74 |
| Raw vegetables | -0,40†b | 0,71 | -0,41b | 0,66 | 0,37\*a | 1,10 |
| Fresh fruits without added sugar | -0,46†c | 0,74 | -0,25b | 0,81 | 0,35\*a | 1,06 |
| Fresh fruits with added sugar | 0,27\*a | 1,13 | -0,13†b | 0,79 | -0,09b | 0,98 |
| Water | 0,06a | 0,99 | -0,46†b | 0,96 | 0,15\*a | 0,97 |
| Fruit juices | 0,15\*a | 1,05 | 0,11a | 1,15 | -0,12†b | 0,89 |
| Sweetened drinks | -0,05b | 0,73 | 0,68\*a | 1,71 | -0,25†c | 0,47 |
| Diet drinks | -0,11b | 0,51 | 0,55\*a | 1,92 | -0,16†b | 0,40 |
| Breakfast cereals, muesli, sweetened | 0,31\*a | 1,21 | -0,02b | 0,87 | -0,16†c | 0,88 |
| Porridge, oat meal, gruel, cereals, muesli, unsweetened | -0,19b | 0,77 | -0,40†c | 0,54 | 0,26\*a | 1,16 |
| Plain unsweetened milk | -0,22b | 0,85 | -0,26†c | 0,86 | 0,22\*a | 1,07 |
| Sweetened milk | 0,28\*a | 1,12 | -0,05b | 0,95 | -0,13†c | 0,92 |
| Plain unsweetened yoghurt or kefir | 0,04b | 0,94 | -0,35†c | 0,61 | 0,12\*a | 1,12 |
| Sweet yoghurt, fermented milk beverages | -0,13†c | 0,91 | 0,14\*a | 1,04 | 0,01b | 1,02 |
| Fresh or frozen fish, not fried | 0,00b | 0,96 | -0,39†c | 0,82 | 0,16\*a | 1,04 |
| Fried fish, fish fingers | 0,08\*a | 1,04 | -0,04†b | 0,89 | -0,02b | 1,02 |
| Cold cuts, preserved, ready to cook meat products | -0,16†c | 0,81 | 0,48\*a | 1,18 | -0,11b | 0,95 |
| Fresh meat, not fried | 0,17\*a | 0,94 | -0,23†c | 1,08 | 0,00b | 0,98 |
| Fried meat | -0,28†c | 0,74 | 0,59\*a | 1,23 | -0,09b | 0,92 |
| Fried or scrambled eggs | 0,30\*a | 1,50 | -0,14†b | 0,69 | -0,10b | 0,70 |
| Boiled or poached eggs | 0,10\*a | 1,13 | -0,23†b | 0,82 | 0,04a | 0,98 |
| Mayonnaise, mayonnaise based products | 0,09b | 1,07 | 0,50\*a | 1,42 | -0,25†c | 0,59 |
| Cheese | 0,01b | 0,95 | -0,23†c | 0,96 | 0,09\*a | 1,03 |
| Jam, honey | -0,09†b | 0,86 | 0,13\*a | 1,10 | -0,01b | 1,02 |
| Chocolate or nut based spread | 0,10b | 0,89 | 0,84\*a | 1,38 | -0,39†c | 0,55 |
| Butter, margarine on bread | -0,16†c | 0,76 | -0,05b | 1,03 | 0,11\*a | 1,08 |
| Reduced-fat products on bread | -0,23†c | 0,59 | 0,05b | 1,04 | 0,10\*a | 1,13 |
| Ketchup | 0,37\*a | 1,44 | 0,04b | 0,85 | -0,21†c | 0,65 |
| White bread, white roll, white crispbread | 0,06\*a | 1,00 | 0,04a | 1,01 | -0,05†b | 0,99 |
| Whole meal bread, dark roll, dark crispbread | -0,35†b | 0,68 | 0,15\*a | 1,13 | 0,12a | 1,04 |
| Pasta, noodles, rice | 0,00a | 1,05 | -0,21†b | 0,81 | 0,09\*a | 1,03 |
| Dish of milled cereals | 0,17\*a | 1,29 | -0,23†c | 0,55 | 0,01b | 0,95 |
| Pizza as main dish | 0,63\*a | 1,49 | -0,16b | 0,68 | -0,27†c | 0,53 |
| Hamburger, hot dog, kebab, wrap, falafel | 0,31\*a | 1,15 | -0,36†c | 0,70 | -0,02b | 0,97 |
| Nuts, seeds, dried fruits | 0,16\*a | 1,13 | -0,28†c | 0,65 | 0,03b | 1,02 |
| Crisps, corn crisps, popcorn | 0,42\*a | 1,23 | 0,17b | 1,06 | -0,29†c | 0,70 |
| Savoury pastries, fritters | 0,78\*a | 1,41 | -0,31†b | 0,54 | -0,29b | 0,56 |
| Chocolate, candy bars | 0,24a | 1,12 | 0,36\*a | 1,25 | -0,27†b | 0,69 |
| Candies, loose candies, marshmallows | -0,13b | 0,78 | 0,78\*a | 1,48 | -0,25†c | 0,64 |
| Biscuits, packaged cakes, pastries, puddings | -0,07b | 0,79 | 0,83\*a | 1,44 | -0,30†c | 0,63 |
| Ice cream, milk or fruit based bars | 0,30\*a | 1,26 | -0,08b | 0,95 | -0,12†b | 0,81 |

a,b,c, Mean values within a row with unlike superscript letters were significantly different between clusters (P,0·05).

\* Highest mean value in the row.† Lowest mean value in the row.