**Supplementary materials**

**Table A1. Selected COM-B indicators**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Dimensions** | **Determinants** | **Measured attributes** | **Item in the questionnaire** | **Item original scale** | **Item numerical scale** | **Final operation** |
| **Capability** | Knowledge | Diet perception | How healthy or unhealthy do you think your current food consumption is on a scale from very unhealthy to very healthy? 1 Very unhealthy/7Very healthy | Very unhealthy/Very healthy | 1 to 7 | Item score |
|  | Health as food selection criteria | When buying food, what would you say are the most important factors that influence your choice? [You and your family’s health] | Yes/No | 0 to 1 | Item score |
|  | Self-efficacy | Control beliefs 1 | How confident are you that you will be able to eat the recommended diet most of the time | Not at all confident/Very confident | 1 to 7 | Item score |
|  | Control beliefs 2 | Whether or not I will eat the healthy diet most of the time over the next 6 months is entirely up to me | Strongly disagree/Strongly agree | 1 to 7 | Item score |
|  | Perceived behavior control | How much personal control do you feel you have over eating the healthy and sustainable diet | Very little control/Complete control | 1 to 7 | Item score |
| **Motivation** | Beliefs | Perceived behavior barriers 1 | Eating the recommended diet means eating boring food | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Perceived behavior barriers 2 | Healthy and sustainable food is less tasty. | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Perceived behavior barriers 3 | Eating the recommended diet will reduce my pleasure from food. | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Perceived behavior benefits 1 | By eating the recommended diet, I will reduce risks to my health, such as heart disease. | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Perceived behavior benefits 2 | Eating the recommended diet will help me to lose weight or maintain lower weight. | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Perceived behavior benefits 3 | Eating the recommended diet will reduce adverse effects on the environment. | Very likely/Very unlikely | 1 to 7 | Item score |
|  | Outcome evaluation (attitudinal) | Eating the healthy and sustainable diet most of the time over the next 6 months would be bad/good; harmful/beneficial; unpleasant/pleasant; unenjoyable/enjoyable; foolish/wise; necessary/necessary; difficult/easy | Negative/Positive | 1 to 7 | Average score |
|  | Intentionnal | Intentions 1 | I will make an effort to eat the recommended healthy and sustainable diet most of the time over the next 6 months. | I definitely will/I definitely will not | 1 to 7 | Item score |
|  | Intentions 2 |  | Extremely likely/Extremely unlikely | 1 to 7 | Item score |
|  | Values: Healthy | Please indicate on the following scale how important each of these is as a guiding principle in your life: Healthy (not being sick physically or mentally) | Opposed to my values/Of supreme importance | 0 to 7 | Item score |
|  | Values: Social justice | Social justice (righting injustice, care for the weak) | Opposed to my values/Of supreme importance | 0 to 7 | Item score |
|  | Values: Environmental | Preventing environmental pollution (protection of natural resources) | Opposed to my values/Of supreme importance | 0 to 7 | Item score |
|  | Automatic | Habit strength F&V | Eating F & V at lunch/dinner time on weekdays is something that I do without thinking; is natural for me to do; I do automatically. | Strongly disagree/Strongly agree | 1 to 7 | Average score |
|  | Habit strength dessert | Eating dessert at lunch/dinner time on weekdays is something that I do without thinking; is natural for me to do; I do automatically. | Strongly disagree/Strongly agree | 1 to 7 | Average score |
| **Opportunity** |  |  |  |  |  |  |
| Physical environment | Household availability | How often do you have fresh fruit or fresh vegetables available in your household?/ ... fresh fruits or vegetables at home ready to be consumed by any household member?/... fresh fruits or vegetables at home ready to be consumed by any household member? | Never/Always | 1 to 7 | Average score |
| Lower perceived contextual barriers 1 | Eating the healthy diet would be easier for me, if prices of vegetables and fruits were lower and prices of foods high in sugar and salt were higher. | Strongly disagree/Strongly agree | 1 to 7 | Item score |
| Lower perceived contextual barriers 2 | Eating the healthy diet would be easier for me, if fresh vegetables and fruits were more easily available in stores, restaurants and public places. | Strongly disagree/Strongly agree | 1 to 7 | Item score |
|  | Lower perceived contextual barriers 3 | Eating the healthy diet would be easier for me, if prices of vegetables and fruits were lower and prices of red and processed meat were higher. | Strongly disagree/Strongly agree | 1 to 7 | Item score |
| Social environment | Social norms 1 | People who are important to me would disapprove/approve of my eating the healthy and sustainable diet most of the time over the next 6 months. | Disapprove/Approve | 1 to 7 | Item score |
| Social norms 2 | People who are important to me think I should eat the healthy and sustainable diet most of the time over the next 6 months. | Should/Should not | 1 to 7 | Item score |
| Social norms 3 | I feel under social pressure to eat the recommended healthy diet most of the time over the next 6 months. | Strongly disagree/Strongly agree | 1 to 7 | Item score |

Notes. In a previous conceptual model of this work, behavioural beliefs were considered under capabilities, as an indicator of knowledge and ability to act. The updated conceptual model considers beliefs under motivation, due to the role in determining intentions according to the Theory of Planned Behavioural.

**Table A2. Preliminary studies: Correlation matrix**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) |
| (1) Diet perception | r | 1 | .289\*\* | .243\*\* | .192\*\* | .237\*\* | -.004 | .029 | .084\* | .243\*\* | .314\*\* | .213\*\* | .262\*\* | .348\*\* | -.067 | .157\*\* | -.219\*\* | .096\*\* | .150\*\* | .071 | .068 | .125\*\* | .062 | .055 | .020 | -.089\*\* | .256\*\* |
|  | p |  | .000 | .000 | .000 | .000 | .901 | .398 | .019 | .000 | .000 | .000 | .000 | .000 | .050 | .000 | .000 | .009 | .000 | .055 | .050 | .000 | .083 | .110 | .554 | .009 | .000 |
|  | N | 857 | 857 | 839 | 839 | 831 | 832 | 833 | 788 | 854 | 854 | 849 | 849 | 856 | 856 | 850 | 846 | 730 | 734 | 731 | 820 | 816 | 782 | 851 | 848 | 854 | 855 |
| (2) Health as food selection criteria | r |  | 1 | .169\*\* | .107\*\* | .156\*\* | .093\*\* | .095\*\* | .098\*\* | .193\*\* | .194\*\* | .130\*\* | .169\*\* | .129\*\* | -.045 | .225\*\* | -.167\*\* | .167\*\* | .202\*\* | .150\*\* | .144\*\* | .093\*\* | .079\* | .132\*\* | .135\*\* | -.034 | .097\*\* |
|  | p |  |  | .000 | .002 | .000 | .007 | .006 | .006 | .000 | .000 | .000 | .000 | .000 | .189 | .000 | .000 | .000 | .000 | .000 | .000 | .008 | .027 | .000 | .000 | .320 | .004 |
|  | N |  | 865 | 845 | 845 | 838 | 839 | 839 | 793 | 862 | 862 | 857 | 857 | 864 | 864 | 858 | 854 | 738 | 742 | 739 | 825 | 821 | 787 | 859 | 856 | 862 | 863 |
| (3) Control beliefs 1 | r |  |  | 1 | .702\*\* | .661\*\* | .167\*\* | .108\*\* | .168\*\* | .387\*\* | .355\*\* | .204\*\* | .276\*\* | .185\*\* | -.176\*\* | .207\*\* | -.329\*\* | .160\*\* | .254\*\* | .094\* | .087\* | .152\*\* | .062 | .174\*\* | .168\*\* | -.194\*\* | .305\*\* |
|  | p |  |  |  | .000 | .000 | .000 | .002 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .012 | .013 | .000 | .086 | .000 | .000 | .000 | .000 |
|  | N |  |  | 845 | 839 | 834 | 830 | 833 | 788 | 843 | 845 | 839 | 839 | 844 | 844 | 842 | 836 | 722 | 726 | 723 | 815 | 811 | 777 | 841 | 838 | 844 | 844 |
| (4) Control beliefs 2 | r |  |  |  | 1 | .673\*\* | .140\*\* | .101\*\* | .131\*\* | .309\*\* | .255\*\* | .167\*\* | .195\*\* | .157\*\* | -.172\*\* | .224\*\* | -.301\*\* | .137\*\* | .189\*\* | .082\* | .058 | .120\*\* | .013 | .143\*\* | .141\*\* | -.178\*\* | .266\*\* |
|  | p |  |  |  |  | .000 | .000 | .004 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .027 | .095 | .001 | .720 | .000 | .000 | .000 | .000 |
|  | N |  |  |  | 845 | 834 | 832 | 835 | 788 | 843 | 844 | 839 | 839 | 844 | 844 | 841 | 836 | 725 | 729 | 726 | 815 | 811 | 778 | 841 | 838 | 844 | 844 |
| (5) Perceived behavior control | r |  |  |  |  | 1 | .024 | .011 | .121\*\* | .326\*\* | .317\*\* | .180\*\* | .277\*\* | .153\*\* | -.210\*\* | .179\*\* | -.287\*\* | .116\*\* | .199\*\* | .058 | .038 | .077\* | .010 | .160\*\* | .142\*\* | -.220\*\* | .276\*\* |
|  | p |  |  |  |  |  | .498 | .761 | .001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .121 | .278 | .029 | .779 | .000 | .000 | .000 | .000 |
|  | N |  |  |  |  | 838 | 826 | 829 | 784 | 836 | 837 | 832 | 832 | 837 | 837 | 835 | 829 | 717 | 721 | 718 | 808 | 804 | 770 | 835 | 831 | 837 | 837 |
| (6) Perceived behavior barriers 1 | r |  |  |  |  |  | 1 | .601\*\* | .431\*\* | .229\*\* | .197\*\* | .113\*\* | .082\* | .098\*\* | -.118\*\* | .169\*\* | -.251\*\* | .225\*\* | .270\*\* | .265\*\* | .114\*\* | .152\*\* | .055 | .250\*\* | .305\*\* | .020 | .194\*\* |
|  | p |  |  |  |  |  |  | .000 | .000 | .000 | .000 | .001 | .018 | .005 | .001 | .000 | .000 | .000 | .000 | .000 | .001 | .000 | .128 | .000 | .000 | .558 | .000 |
|  | N |  |  |  |  |  | 839 | 830 | 786 | 837 | 838 | 833 | 833 | 838 | 838 | 835 | 830 | 716 | 720 | 717 | 809 | 804 | 771 | 836 | 832 | 838 | 838 |
| (7) Perceived behavior barriers 2 | r |  |  |  |  |  |  | 1 | .429\*\* | .247\*\* | .215\*\* | .120\*\* | .048 | .161\*\* | -.084\* | .183\*\* | -.305\*\* | .127\*\* | .209\*\* | .223\*\* | .116\*\* | .162\*\* | .097\*\* | .251\*\* | .324\*\* | -.023 | .116\*\* |
|  | p |  |  |  |  |  |  |  | .000 | .000 | .000 | .001 | .167 | .000 | .015 | .000 | .000 | .001 | .000 | .000 | .001 | .000 | .007 | .000 | .000 | .503 | .001 |
|  | N |  |  |  |  |  |  | 839 | 789 | 837 | 838 | 833 | 833 | 838 | 838 | 836 | 830 | 717 | 721 | 718 | 812 | 807 | 773 | 835 | 832 | 838 | 838 |
| (8) Perceived behavior barriers 3 | r |  |  |  |  |  |  |  | 1 | .261\*\* | .235\*\* | .049 | .115\*\* | .148\*\* | -.117\*\* | .133\*\* | -.237\*\* | .157\*\* | .253\*\* | .133\*\* | .114\*\* | .158\*\* | .112\*\* | .146\*\* | .202\*\* | -.017 | .231\*\* |
|  | p |  |  |  |  |  |  |  |  | .000 | .000 | .171 | .001 | .000 | .001 | .000 | .000 | .000 | .000 | .001 | .002 | .000 | .002 | .000 | .000 | .639 | .000 |
|  | N |  |  |  |  |  |  |  | 793 | 791 | 792 | 787 | 787 | 792 | 793 | 790 | 784 | 674 | 678 | 675 | 768 | 763 | 732 | 789 | 786 | 792 | 792 |
| (9) Perceived behavior benefits 1 | r |  |  |  |  |  |  |  |  | 1 | .416\*\* | .176\*\* | .325\*\* | .213\*\* | -.123\*\* | .240\*\* | -.368\*\* | .250\*\* | .304\*\* | .185\*\* | .111\*\* | .183\*\* | .147\*\* | .323\*\* | .300\*\* | -.064 | .279\*\* |
|  | p |  |  |  |  |  |  |  |  |  | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .001 | .000 | .000 | .000 | .000 | .060 | .000 |
|  | N |  |  |  |  |  |  |  |  | 862 | 860 | 856 | 855 | 861 | 861 | 856 | 853 | 736 | 740 | 737 | 823 | 819 | 785 | 857 | 855 | 860 | 861 |
| (10) Perceived behavior benefits 2 | r |  |  |  |  |  |  |  |  |  | 1 | .231\*\* | .377\*\* | .192\*\* | -.104\*\* | .309\*\* | -.498\*\* | .181\*\* | .282\*\* | .180\*\* | .177\*\* | .223\*\* | .213\*\* | .270\*\* | .295\*\* | -.005 | .226\*\* |
|  | p |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .000 | .002 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .892 | .000 |
|  | N |  |  |  |  |  |  |  |  |  | 862 | 856 | 856 | 861 | 861 | 858 | 853 | 736 | 740 | 737 | 825 | 821 | 787 | 857 | 855 | 861 | 861 |
| (11) Perceived behavior benefits 3 | r |  |  |  |  |  |  |  |  |  |  | 1 | .308\*\* | .112\*\* | -.041 | .114\*\* | -.172\*\* | .140\*\* | .115\*\* | .130\*\* | .063 | .015 | .041 | .270\*\* | .140\*\* | -.076\* | .033 |
| p |  |  |  |  |  |  |  |  |  |  |  | .000 | .001 | .227 | .001 | .000 | .000 | .002 | .000 | .071 | .671 | .252 | .000 | .000 | .025 | .331 |
| N |  |  |  |  |  |  |  |  |  |  | 857 | 851 | 856 | 856 | 852 | 849 | 731 | 735 | 732 | 819 | 815 | 781 | 852 | 851 | 856 | 856 |
| (12) Outcome evaluation (attitudinal) | r |  |  |  |  |  |  |  |  |  |  |  | 1 | .146\*\* | -.125\*\* | .177\*\* | -.267\*\* | .183\*\* | .216\*\* | .152\*\* | .027 | .074\* | .012 | .284\*\* | .164\*\* | -.173\*\* | .341\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .441 | .035 | .741 | .000 | .000 | .000 | .000 |
| N |  |  |  |  |  |  |  |  |  |  |  | 857 | 856 | 856 | 852 | 848 | 731 | 735 | 732 | 819 | 815 | 781 | 852 | 850 | 856 | 856 |
| (13) Intentions 1 | r |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .096\*\* | .061 | -.145\*\* | .098\*\* | .167\*\* | .112\*\* | .080\* | .127\*\* | .107\*\* | .034 | .068\* | -.048 | .358\*\* |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  | .005 | .074 | .000 | .008 | .000 | .002 | .022 | .000 | .003 | .313 | .048 | .156 | .000 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  | 864 | 863 | 857 | 853 | 737 | 741 | 738 | 824 | 820 | 786 | 858 | 855 | 861 | 862 |
| (14) Intentions 2 | r |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | -.140\*\* | .159\*\* | -.091\* | -.126\*\* | -.104\*\* | .041 | .026 | .067 | -.109\*\* | -.093\*\* | .140\*\* | -.222\*\* |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .013 | .001 | .005 | .242 | .455 | .061 | .001 | .007 | .000 | .000 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  | 864 | 857 | 853 | 737 | 741 | 738 | 824 | 820 | 786 | 858 | 855 | 861 | 862 |
| (15) Values: Healthy | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | -.323\*\* | .121\*\* | .160\*\* | .082\* | .043 | .107\*\* | .069 | .157\*\* | .171\*\* | -.150\*\* | .062 |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .001 | .000 | .026 | .219 | .002 | .052 | .000 | .000 | .000 | .070 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 858 | 849 | 733 | 737 | 734 | 823 | 819 | 785 | 853 | 851 | 857 | 857 |
| (16) Values: Social justice | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | -.179\*\* | -.239\*\* | -.170\*\* | -.087\* | -.131\*\* | -.089\* | -.266\*\* | -.446\*\* | .067\* | -.268\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .000 | .013 | .000 | .013 | .000 | .000 | .050 | .000 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 854 | 731 | 734 | 731 | 816 | 813 | 779 | 849 | 852 | 853 | 853 |
| (17) Values: Environmental | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .612\*\* | .528\*\* | .065 | .132\*\* | .073 | .195\*\* | .175\*\* | -.090\* | .283\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .085 | .000 | .057 | .000 | .000 | .015 | .000 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 738 | 738 | 735 | 706 | 706 | 677 | 734 | 732 | 737 | 738 |
| (18) Habit strength F&V | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .558\*\* | .084\* | .194\*\* | .067 | .134\*\* | .181\*\* | -.103\*\* | .392\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .025 | .000 | .079 | .000 | .000 | .005 | .000 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 742 | 739 | 709 | 709 | 679 | 738 | 736 | 741 | 742 |
| (19) Habit strength dessert | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .121\*\* | .130\*\* | .060 | .215\*\* | .216\*\* | -.070 | .247\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .001 | .001 | .122 | .000 | .000 | .056 | .000 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 739 | 706 | 706 | 676 | 735 | 733 | 738 | 739 |
| (20) Lower perceived contextual barriers 1 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .422\*\* | .552\*\* | .070\* | .140\*\* | .203\*\* | -.134\*\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .000 | .045 | .000 | .000 | .000 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 825 | 809 | 773 | 821 | 818 | 825 | 824 |
| (21) Lower perceived contextual barriers 2 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .443\*\* | .049 | .118\*\* | .203\*\* | .066 |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .166 | .001 | .000 | .058 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 821 | 772 | 817 | 815 | 821 | 820 |
| (22) Lower perceived contextual barriers 3 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .088\* | .137\*\* | .276\*\* | -.090\* |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .014 | .000 | .000 | .012 |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 787 | 784 | 781 | 787 | 786 |
| (23) Social norms 1 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .440\*\* | -.021 | .032 |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 | .545 | .350 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 859 | 852 | 857 | 858 |
| (24) Social norms 2 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | .035 | .095\*\* |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .307 | .006 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 856 | 855 | 855 |
| (25) Social norms 3 | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | -.226\*\* |
|  | p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .000 |
|  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 862 | 861 |
| (26) Household availability | r |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| p |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 863 |

Notes. Pearson Correlation (r). Significance level (p), Sample (N).

**Table A3**. **Preliminary studies:** Reliability studies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Corrected Total  correlation | Alfa de Cronbach  if deleted | Alfa de Cronbach |
| Outcome evaluation  (Semantic differential scale) | Item 1 | 0.682 | 0.887 | 0.898 |
| Item 2 | 0.742 | 0.878 |  |
| Item 3 | 0.808 | 0.870 |  |
| Item 4 | 0.781 | 0.874 |  |
| Item 5 | 0.784 | 0.873 |  |
| Item 6 | 0.729 | 0.880 |  |
| Item 7 | 0.440 | 0.915 |  |
| Habit strength F&V | Item 1 | 0.739 | 0.901 | 0.913 |
|  | Item 2 | 0.698 | 0.906 |  |
|  | Item 3 | 0.815 | 0.889 |  |
|  | Item 4 | 0.761 | 0.897 |  |
|  | Item 5 | 0.722 | 0.903 |  |
|  | Item 6 | 0.815 | 0.890 |  |
| Habit strength dessert | Item 1 | 0.746 | 0.907 | 0.919 |
|  | Item 2 | 0.707 | 0.913 |  |
|  | Item 3 | 0.797 | 0.900 |  |
|  | Item 4 | 0.773 | 0.904 |  |
|  | Item 5 | 0.775 | 0.903 |  |
|  | Item 6 | 0.821 | 0.897 |  |
| Household availability | Item 1 | 0.943 | 0.953 | 0.971 |
|  | Item 2 | 0.929 | 0.964 |  |
|  | Item 3 | 0.941 | 0.955 |  |

**Table A4. Preliminary studies:** Regressional study 1 (all variables polled)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Beta | Standard  Error | Sig. | Exp(B) |
| Gender | (NR)a |  |  | 0.345 |  |
|  | Male | -0.146 | 0.460 | 0.751 | 0.864 |
|  | Female | -0.389 | 0.268 | 0.146 | 0.678 |
| Age goup | (50+yrs) a |  |  | 0.006 |  |
|  | 18-34 yrs | -0.693 | 0.361 | 0.055 | 0.500 |
|  | 35-49 yrs | -0.944 | 0.294 | 0.001 | 0.389 |
| Education group | (Terciary) a |  |  | 0.120 |  |
|  | primary/lower secondary | -1.101 | 0.535 | 0.039 | 0.333 |
|  | upper secondary | -0.165 | 0.318 | 0.603 | 0.848 |
| Economic dificulties | No (Yes)a | 0.227 | 0.259 | 0.381 | 1.255 |
| Knowledge | **Diet perception** | **0.519** | **0.139** | **0.000** | **1.680** |
|  | Health as food selection criteria | -0.249 | 0.243 | 0.307 | 0.780 |
| Self-efficacy | Control beliefs 1 | 0.014 | 0.098 | 0.887 | 1.014 |
|  | Control beliefs 2 | 0.045 | 0.094 | 0.634 | 1.046 |
|  | Perceived behavior control | 0.020 | 0.089 | 0.819 | 1.021 |
| Beliefs | Perceived behavior barriers 1 | -0.092 | 0.087 | 0.294 | 0.912 |
|  | Perceived behavior barriers 2 | 0.009 | 0.085 | 0.912 | 1.009 |
|  | Perceived behavior barriers 3 | 0.001 | 0.068 | 0.989 | 1.001 |
|  | Perceived behavior benefits 1 | 0.029 | 0.108 | 0.787 | 1.030 |
|  | Perceived behavior benefits 2 | -0.002 | 0.110 | 0.988 | 0.998 |
|  | Perceived behavior benefits 3 | 0.005 | 0.096 | 0.961 | 1.005 |
|  | Outcome evaluation (attitudinal) | -0.048 | 0.107 | 0.654 | 0.953 |
| Habits | **Habit strength F&V** | **0.441** | **0.082** | **0.000** | **1.555** |
|  | **Habit strength dessert** | **-0.202** | **0.074** | **0.006** | **0.817** |
| Intentions | Intentions 1 | 0.085 | 0.068 | 0.207 | 1.089 |
|  | Intentions 2 | -0.161 | 0.086 | 0.062 | 0.851 |
|  | Values: Healthy | -0.021 | 0.094 | 0.824 | 0.979 |
|  | Values: Social justice | -0.123 | 0.111 | 0.267 | 0.884 |
|  | Values: Environmental | 0.039 | 0.106 | 0.713 | 1.040 |
| Physical environment | Lower perceived contextual barriers 1 | 0.033 | 0.073 | 0.647 | 1.034 |
|  | Lower perceived contextual barriers 3 | -0.068 | 0.076 | 0.371 | 0.934 |
|  | Lower perceived contextual barriers 3 | -0.059 | 0.072 | 0.416 | 0.943 |
|  | **Household availability** | **0.358** | **0.088** | **0.000** | **1.430** |
| Social environment | **Social norms 1** | **-0.261** | **0.115** | **0.024** | **0.770** |
|  | Social norms 2 | -0.008 | 0.085 | 0.921 | 0.992 |
|  | Social norms 3 | -0.019 | 0.070 | 0.786 | 0.981 |
|  | Constant | -3.538 | 1.405 | 0.012 | 0.029 |

Notes. aCategorical variable, reference category in parenthesis.

χ2(33) = 229.821, p = .000; Nagelkerke, R2 = .456.

**Table A5. Preliminary studies:** Regressional study 2: only selected indicators polled

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable |  | **Beta** | **Standard**  **Error** | **Sig.** | **Exp(B)** |
| Gender | (NR) a |  |  | 0.133 |  |
|  | M | -0.292 | 0.370 | 0.429 | 0.747 |
|  | F | -0.391 | 0.203 | 0.054 | 0.677 |
| Age goup | (50+yrs) a |  |  | 0.001 |  |
|  | 18-34 yrs | -0.734 | 0.279 | 0.009 | 0.480 |
|  | 35-49 yrs | -0.833 | 0.219 | 0.000 | 0.435 |
| Education group | (Terciary) a |  |  | 0.005 |  |
|  | primary/lower secondary | -1.003 | 0.334 | 0.003 | 0.367 |
|  | upper secondary | -0.491 | 0.238 | 0.039 | 0.612 |
| Economic dificulties | No (Yes) a | 0.241 | 0.190 | 0.204 | 1.273 |
| Knowledge | **Diet perception** | **0.428** | **0.095** | **0.000** | **1.534** |
| Habits | **Habit strength F&V** | **0.344** | **0.061** | **0.000** | **1.410** |
|  | **Habit strength dessert** | **-0.159** | **0.056** | **0.004** | **0.853** |
| Social environment | Social norms 1 | -0.084 | 0.073 | 0.251 | 0.920 |
| Physical environment | **Household availability** | **0.371** | **0.060** | **0.000** | **1.449** |
| Constant |  | -5.428 | 0.846 | 0.000 | 0.004 |

Notes. aCategorical variable, reference category in parenthesis.

χ2(12) = 271,841, p = .000; Nagelkerke, R2 = .380

**Table A6. Preliminary studies:** Correlation matrix (variables included in the path)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| (1) PROVE\* | r | 1 | .301\*\* | .094\*\* | -.351\*\* | -.036 | .013 | -.197\*\* | -.208\*\* | .226\*\* | -.206\*\* | .823\*\* |
| p |  | .000 | .006 | .000 | 0.295 | 0.713 | .000 | .000 | .000 | .000 | .000 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (2) Five a day\* | r | .301\*\* | 1 | .141\*\* | -.030 | -.020 | -.047 | -.139\*\* | -.142\*\* | .341\*\* | -.158\*\* | .410\*\* |
| p | .000 |  | .000 | 0.383 | 0.566 | 0.168 | .000 | .000 | .000 | .000 | .000 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (3) Female\* | r | .094\*\* | .141\*\* | 1 | .075\* | .216\*\* | .024 | -.095\*\* | -.162\*\* | .071\* | -.148\*\* | .137\*\* |
| p | .006 | .000 |  | .029 | .000 | 0.478 | .005 | .000 | .038 | .000 | .000 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (4) Economic dificulties: Yes\* | r | -.351\*\* | -.030 | .075\* | 1 | .126\*\* | -.005 | -.051 | -.036 | -.003 | .090\*\* | -.208\*\* |
| p | .000 | 0.383 | .029 |  | .000 | 0.890 | 0.137 | 0.294 | 0.926 | .008 | .000 |
| N | 852 | 852 | 852 | 852 | 852 | 852 | 852 | 852 | 851 | 851 | 852 |
| (5) Age goup: 18-34 yrs\* | r | -.036 | -.020 | .216\*\* | .126\*\* | 1 | -.477\*\* | -.176\*\* | -.110\*\* | -.064 | -.045 | -.081\* |
| p | 0.295 | 0.566 | .000 | .000 |  | .000 | .000 | .001 | .062 | 0.183 | .018 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (6) Age goup: 35-49 yrs\* | r | .013 | -.047 | .024 | -.005 | -.477\*\* | 1 | -.206\*\* | .004 | .009 | -.069\* | .002 |
| p | 0.713 | 0.168 | 0.478 | 0.890 | .000 |  | .000 | 0.896 | 0.791 | .042 | 0.952 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (7) Education group: Primary/lower secondary\* | r | -.197\*\* | -.139\*\* | -.095\*\* | -.051 | -.176\*\* | -.206\*\* | 1 | -.190\*\* | -.049 | .119\*\* | -.162\*\* |
| p | .000 | .000 | .005 | 0.137 | .000 | .000 |  | .000 | 0.147 | .000 | .000 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (8) Education group: Upper secondary\* | r | -.208\*\* | -.142\*\* | -.162\*\* | -.036 | -.110\*\* | .004 | -.190\*\* | 1 | -.073\* | .133\*\* | -.191\*\* |
| p | .000 | .000 | .000 | 0.294 | .001 | 0.896 | .000 |  | .031 | .000 | .000 |
| N | 865 | 865 | 865 | 852 | 865 | 865 | 865 | 865 | 864 | 864 | 863 |
| (9) Habit strength F&V | r | .226\*\* | .341\*\* | .071\* | -.003 | -.064 | .009 | -.049 | -.073\* | 1 | .096\*\* | .358\*\* |
| p | .000 | .000 | .038 | 0.926 | .062 | 0.791 | 0.147 | .031 |  | .005 | .000 |
| N | 864 | 864 | 864 | 851 | 864 | 864 | 864 | 864 | 864 | 863 | 862 |
| (10) Habit strength dessert | r | -.206\*\* | -.158\*\* | -.148\*\* | .090\*\* | -.045 | -.069\* | .119\*\* | .133\*\* | .096\*\* | 1 | -.222\*\* |
| p | .000 | .000 | .000 | .008 | .183 | .042 | .000 | .000 | .005 |  | .000 |
| N | 864 | 864 | 864 | 851 | 864 | 864 | 864 | 864 | 863 | 864 | 862 |
| (11) Household availability | r | .823\*\* | .410\*\* | .137\*\* | -.208\*\* | -.081\* | .002 | -.162\*\* | -.191\*\* | .358\*\* | -.222\*\* | 1 |
| p | .000 | .000 | .000 | .000 | .018 | 0.952 | .000 | .000 | .000 | .000 |  |
| N | 863 | 863 | 863 | 852 | 863 | 863 | 863 | 863 | 862 | 862 | 863 |

Notes. Pearson Correlation (r). Significance level (p), Sample (N). Dummy variables signaled with \*.

**Table A7. Structural equation full output**

# **Estimates**

# Estimator DWLS

# Optimization method NLMINB

# Number of free parameters 48

# 

# Number of observations 842

# 

# Model Test User Model:

# Standard Robust

# Test Statistic 2.060 2.060

# Degrees of freedom 1 1

# P-value (Chi-square) 0.151 0.151

# Scaling correction factor 1.000

# Shift parameter 0.000

# for the simple second-order correction

# Model Test Baseline Model:

# Test statistic 500.813 415.019

# Degrees of freedom 10 10

# P-value 0.000 0.000

# Scaling correction factor 1.212

# User Model versus Baseline Model:

# Comparative Fit Index (CFI) .998 0.997

# Tucker-Lewis Index (TLI) .978 0.974

# 

# Root Mean Square Error of Approximation:

# RMSEA 0.036 0.036

# 90 Percent confidence interval - lower 0.000 0.000

# 90 Percent confidence interval - upper 0.106 0.106

# P-value RMSEA <= 0.05 0.508 0.508

# Standardized Root Mean Square Residual:

# SRMR 0.011 0.011

# Parameter Estimates:

# Information Expected

# Information saturated (h1) model Unstructured

# Standard errors Robust.sem

# Regressions:

# ESTIMATE STD.ERR Z-VALUE P(>|Z|) CI.LOWER CI.UPPER STD.LV STD.ALL

# m1 ~

# age\_cat1 -0.381 0.112 -3.386 0.001 -0.601 -0.160 -0.381 -0.140

# age\_cat2 -0.235 0.089 -2.655 0.008 -0.409 -0.062 -0.235 -0.109

# edu\_cat1 -0.395 0.114 -3.452 0.001 -0.619 -0.171 -0.395 -0.116

# edu\_cat2 -0.273 0.096 -2.857 0.004 -0.460 -0.086 -0.273 -0.105

# econ\_dif 0.263 0.080 3.283 0.001 0.106 0.420 0.263 0.116

# PROVE (a1) 0.231 0.087 2.663 0.008 0.061 0.400 0.231 0.100

# m2 ~

# age\_cat1 -0.451 0.172 -2.621 0.009 -0.789 -0.114 -0.451 -0.108

# age\_cat2 -0.210 0.138 -1.526 0.127 -0.480 0.060 -0.210 -0.063

# edu\_cat1 -0.203 0.209 -0.970 0.332 -0.613 0.207 -0.203 -0.039

# edu\_cat2 -0.135 0.140 -0.963 0.336 -0.409 0.139 -0.135 -0.034

# econ\_dif 0.330 0.127 2.606 0.009 0.082 0.579 0.330 0.095

# PROVE (a2) 0.912 0.138 6.604 0.000 0.641 1.182 0.912 0.257

# m3 ~

# age\_cat1 -0.306 0.176 -1.741 0.082 -0.650 0.039 -0.306 -0.076

# age\_cat2 -0.307 0.129 -2.382 0.017 -0.560 -0.054 -0.307 -0.095

# edu\_cat1 0.362 0.205 1.768 0.077 -0.039 0.762 0.362 0.071

# edu\_cat2 0.455 0.138 3.296 0.001 0.184 0.726 0.455 0.117

# econ\_dif 0.163 0.123 1.332 0.183 -0.077 0.404 0.163 0.048

# PROVE (a3) -0.537 0.139 -3.857 0.000 -0.811 -0.264 -0.537 -0.157

# m4 ~

# age\_cat1 -0.465 0.111 -4.176 0.000 -0.683 -0.247 -0.465 -0.099

# age\_cat2 -0.216 0.090 -2.396 0.017 -0.392 -0.039 -0.216 -0.058

# edu\_cat1 -0.120 0.139 -0.860 0.390 -0.392 0.153 -0.120 -0.020

# edu\_cat2 -0.131 0.093 -1.404 0.160 -0.314 0.052 -0.131 -0.029

# econ\_dif 0.375 0.084 4.447 0.000 0.210 0.540 0.375 0.096

# PROVE (a4) 3.337 0.087 38.349 0.000 3.167 3.508 3.337 0.840

# Five\_a\_day ~

# age\_cat1 -0.239 0.130 -1.844 0.065 -0.493 0.015 -0.239 -0.085

# age\_cat2 -0.329 0.107 -3.064 0.002 -0.539 -0.118 -0.329 -0.147

# edu\_cat1 -0.551 0.166 -3.321 0.001 -0.876 -0.226 -0.551 -0.157

# edu\_cat2 -0.302 0.117 -2.571 0.010 -0.531 -0.072 -0.302 -0.112

# econ\_dif 0.010 0.097 0.104 0.917 -0.179 0.199 0.010 0.004

# PROVE (c) -0.361 0.161 -2.237 0.025 -0.677 -0.045 -0.361 -0.152

# m1 (b1) 0.198 0.040 4.974 0.000 0.120 0.276 0.198 0.192

# m2 (b2) 0.159 0.027 5.863 0.000 0.106 0.212 0.159 0.237

# m3 (b3) -0.083 0.026 -3.140 0.002 -0.134 -0.031 -0.083 -0.119

# m4 (b4) 0.266 0.042 6.398 0.000 0.184 0.347 0.266 0.444

# Covariances:

# ESTIMATE STD.ERR Z-VALUE P(>|Z|) CI.LOWER CI.UPPER STD.LV STD.ALL

# .m1 ~~

# .m2 0.554 0.060 9.272 0.000 0.437 0.671 0.554 0.327

# .m2 ~~

# .m3 0.342 0.092 3.730 0.000 0.162 0.521 0.342 0.137

# .m1 ~~

# .m4 0.302 0.037 8.116 0.000 0.229 0.375 0.302 0.272

# .m2 ~~

# .m4 0.499 0.062 8.004 0.000 0.377 0.621 0.499 0.297

# .m3 ~~

# .m4 -0.180 0.052 -3.484 0.000 -0.281 -0.079 -0.180 -0.110

# Intercepts:

# ESTIMATE STD.ERR Z-VALUE P(>|Z|) CI.LOWER CI.UPPER STD.LV STD.ALL

# .m1 4.913 0.095 51.458 0.000 4.726 5.100 4.913 4.543

# .m2 4.906 0.155 31.636 0.000 4.602 5.210 4.906 2.944

# .m3 2.626 0.156 16.818 0.000 2.320 2.932 2.626 1.629

# .m4 6.258 0.105 59.697 0.000 6.052 6.463 6.258 3.353

# Thresholds:

# ESTIMATE STD.ERR Z-VALUE P(>|Z|) CI.LOWER CI.UPPER STD.LV STD.ALL

# Five\_a\_day|t1 3.346 0.291 11.501 0.000 2.776 3.916 3.346 2.996

# Variances:

# ESTIMATE STD.ERR Z-VALUE P(>|Z|) CI.LOWER CI.UPPER STD.LV STD.ALL

# .m1 1.116 0.051 21.687 0.000 1.015 1.217 1.116 0.954

# .m2 2.574 0.170 15.138 0.000 2.241 2.908 2.574 0.927

# .m3 2.412 0.147 16.429 0.000 2.125 2.700 2.412 0.928

# .m4 1.100 0.057 19.422 0.000 0.989 1.211 1.100 0.316

# .Five\_a\_day 0.689 0.689 0.689 0.689 0.552

# R-Square:

# Estimate

# m1 0.046

# m2 0.073

# m3 0.072

# m4 0.684

# Five\_a\_day 0.448

**Table A8. Preliminary studies: PROVE user modalities and chance for 5 portions a day**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Beta** | **Standard**  **Error** | **Sig.** | **Exp(B)** |
| Gender (NR) |  | Male | -.001 | .444 | .998 | .999 |
|  |  | Female | .268 | .344 | .436 | 1.308 |
| Age group (35-49 yrs) |  | (50+yrs) a | -.766 | .395 | .052 | .465 |
|  |  | 18-34 yrs | -.514 | .304 | .091 | .598 |
| Education group (Terciary) |  | Primary/lower secondary | -1.734 | .896 | .053 | .177 |
|  |  | Upper secondary | -.513 | .445 | .249 | .599 |
| Economic dificulties (No) |  | Yes | .323 | .414 | .436 | 1.381 |
| Antiquity (3+ years) |  | < 1year | -.064 | .333 | .849 | .938 |
|  |  | 1 year | .447 | .385 | .246 | 1.563 |
|  |  | 2 yeats | .136 | .381 | .720 | 1.146 |
| Basket frequency (Weekly) |  | Biweekly | .862 | .701 | .219 | 2.368 |
|  |  | Monthly | .336 | .674 | .618 | 1.399 |
|  |  | Less than Monthly | .830 | 1.196 | .488 | 2.293 |
| Constant |  |  | .098 | .749 | .896 | 1.103 |

Notes. aCategorical variable, reference category in parenthesis.

χ2(12) = 17,082, p = . ,196; Nagelkerke, R2 = .081