

**Table S1.** Socio-Demographic Characteristics and Body Weight Status of Respondents and Association with Breakfast Practices

|                                   | Malaysian Food Barometer 2  |               | Breakfast Non-Consumer | Breakfast Consumer |
|-----------------------------------|-----------------------------|---------------|------------------------|--------------------|
|                                   | N                           | %             | N (%)                  | N (%)              |
| <b>All</b>                        | 1604                        | 100           | 176 (11.0)             | 1428 (89.0)        |
| <b>Gender</b>                     |                             |               |                        |                    |
| Male                              | 729                         | 45.4          | 65 (8.9)               | 664 (91.1)         |
| Female                            | 875                         | 54.6          | 111 (12.7)             | 764 (87.3)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.016*</b> |                        |                    |
| <b>Age groups (years)</b>         |                             |               |                        |                    |
| 18-29                             | 616                         | 38.4          | 116 (18.8)             | 500 (81.2)         |
| 30-59                             | 873                         | 54.4          | 57 (6.5)               | 816 (93.5)         |
| 60 and above                      | 115                         | 7.2           | 3 (2.6)                | 112 (97.4)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.000*</b> |                        |                    |
| <b>Ethnicity</b>                  |                             |               |                        |                    |
| Non-Malay Bumiputra               | 207                         | 12.9          | 27 (13.0)              | 180 (87.0)         |
| Malay                             | 888                         | 55.4          | 91 (10.2)              | 797 (89.9)         |
| Indian                            | 119                         | 7.4           | 20 (16.8)              | 99 (83.2)          |
| Chinese                           | 390                         | 24.3          | 38 (11.0)              | 352 (90.3)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.105</b>  |                        |                    |
| <b>Marital status</b>             |                             |               |                        |                    |
| Single/Widow/Divorced/ Separated  | 815                         | 50.8          | 122 (15.0)             | 693 (85.0)         |
| Married/ living together          | 789                         | 49.2          | 54 (6.8)               | 735 (93.5)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.000*</b> |                        |                    |
| <b>Number of children</b>         |                             |               |                        |                    |
| No Children                       | 862                         | 53.7          | 133 (15.4)             | 729 (84.6)         |
| 1-2 Children                      | 385                         | 24.0          | 26 (6.8)               | 359 (93.2)         |
| 3 or more Children                | 357                         | 22.3          | 17 (4.8)               | 340 (95.2)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.000*</b> |                        |                    |
| <b>Number of family members</b>   |                             |               |                        |                    |
| 1 Person                          | 42                          | 2.6           | 10 (23.8)              | 32 (76.4)          |
| 2 Persons                         | 129                         | 8.0           | 21 (16.3)              | 108 (83.7)         |
| 3-5 Persons                       | 1024                        | 63.8          | 97 (9.5)               | 927 (90.2)         |
| 6 Persons and above               | 409                         | 25.5          | 48 (11.7)              | 361 (88.3)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.004*</b> |                        |                    |
| <b>Urbanization</b>               |                             |               |                        |                    |
| Urban                             | 1461                        | 91.1          | 159 (10.9)             | 1302 (89.1)        |
| Rural                             | 143                         | 8.9           | 17 (11.9)              | 126 (88.1)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.714</b>  |                        |                    |
| <b>Metropolization</b>            |                             |               |                        |                    |
| Metropolitan city                 | 656                         | 40.9          | 86 (13.1)              | 570 (86.9)         |
| Rural peninsular                  | 631                         | 39.3          | 51 (8.1)               | 580 (91.1)         |
| Sabah Sarawak                     | 317                         | 19.8          | 39 (12.3)              | 278 (87.7)         |
|                                   | <i>P-Value</i> <sup>1</sup> | <b>0.011*</b> |                        |                    |
| <b>Highest level of education</b> |                             |               |                        |                    |
| Primary or lower                  | 124                         | 7.7           | 2 (1.6)                | 122 (98.4)         |
| Lower secondary school            | 260                         | 16.2          | 17 (6.5)               | 243 (93.5)         |
| Upper secondary school            | 714                         | 44.5          | 78 (10.9)              | 636 (89.1)         |

|  | <b>Malaysian Food<br/>Barometer 2</b> |               | <b>Breakfast<br/>Non-Consumer</b> | <b>Breakfast<br/>Consumer</b> |
|--|---------------------------------------|---------------|-----------------------------------|-------------------------------|
|  | <b>N</b>                              | <b>%</b>      | <b>N (%)</b>                      | <b>N (%)</b>                  |
| College / University   | 506                                   | 31.5          | 79 (15.6)                         | 427 (84.4)                    |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.000*</b> |                                   |                               |
| <b>Occupation</b>  |                                       |               |                                   |                               |
| Professional   | 255                                   | 15.9          | 32 (12.5)                         | 223 (87.5)                    |
| Blue Collar  | 367                                   | 22.9          | 33 (9.0)                          | 334 (91.0)                    |
| White Collar   | 982                                   | 61.2          | 111 (11.3)                        | 871 (88.7)                    |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.327</b>  |                                   |                               |
| <b>Average monthly individual income (Ringgit Malaysia)</b>  |                                       |               |                                   |                               |
| 100 to 699.99  | 357                                   | 22.3          | 34 (9.5)                          | 323 (90.5)                    |
| 700 to 1,332.99  | 700                                   | 43.6          | 64 (9.1)                          | 636 (90.9)                    |
| 1,333 to 1,999.99  | 237                                   | 14.8          | 27 (11.4)                         | 210 (88.6)                    |
| 2,000 and above  | 310                                   | 19.3          | 51 (16.5)                         | 259 (83.5)                    |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.005*</b> |                                   |                               |
| <b>Dynamic of personal income over the past 5 years</b>      |                                       |               |                                   |                               |
| Have decreased more than 10%                                 | 139                                   | 8.7           | 13 (9.4)                          | 126 (90.6)                    |
| Have remained more or less stable or increased more than 10% | 1465                                  | 91.3          | 163 (11.1)                        | 1302 (88.9)                   |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.523</b>  |                                   |                               |
| <b>Social position</b>                                       |                                       |               |                                   |                               |
| Low  | 357                                   | 50.1          | 34 (9.5)                          | 323 (90.5)                    |
| Middle   | 1073                                  | 25.4          | 117 (10.9)                        | 956 (89.1)                    |
| High   | 174                                   | 24.5          | 25 (14.4)                         | 149 (85.6)                    |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.243</b>  |                                   |                               |
| <b>BMI groups (WHO classification)</b>                       |                                       |               |                                   |                               |
| Underweight  | 165                                   | 10.3          | 29 (17.6)                         | 136 (82.4)                    |
| Normal   | 883                                   | 55.0          | 91 (10.3)                         | 792 (89.7)                    |
| Overweight   | 383                                   | 23.9          | 38 (9.9)                          | 345 (90.1)                    |
| Obesity  | 173                                   | 10.8          | 18 (10.4)                         | 155 (89.6)                    |
|  | <i>P-Value</i> <sup>1</sup>           | <b>0.041*</b> |                                   |                               |

<sup>1</sup> Chi-square test for association with  $\alpha=0.05$ , \*significant result

**Table S2.** Socio-Demographic Characteristics and Body Weight Status Distribution of NRF 9.3

Scores by Tertiles

|                                   | Malaysian Food<br>Barometer 2 | NRF Tertile 1 | NRF Tertile 2 | NRF Tertile 3 |
|-----------------------------------|-------------------------------|---------------|---------------|---------------|
|                                   | N (%)                         | N(%)          | N (%)         | N (%)         |
| <b>All</b>                        | 1604 (100)                    | 535 (33.3)    | 535 (33.3)    | 534 (33.3)    |
| <b>Gender</b>                     |                               |               |               |               |
| Male                              | 727 (45.4)                    | 262 (36.0)    | 233 (32.0)    | 232 (31.9)    |
| Female                            | 875 (54.6)                    | 272 (31.1)    | 301 (34.4)    | 302 (34.5)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.112</b>                  |               |               |               |
| <b>Age groups (years)</b>         |                               |               |               |               |
| 18-29                             | 615 (38.4)                    | 216 (35.1)    | 211 (34.3)    | 188 (30.6)    |
| 30-59                             | 872 (54.4)                    | 280 (32.1)    | 276 (31.7)    | 316 (36.2)    |
| 60 and above                      | 115 (7.2)                     | 38 (33.0)     | 47 (40.9)     | 30 (26.1)     |
| <i>P-Value</i> <sup>1</sup>       | <b>0.054</b>                  |               |               |               |
| <b>Ethnicity</b>                  |                               |               |               |               |
| Non-Malay Bumiputra               | 206 (12.9)                    | 71 (34.5)     | 67 (32.5)     | 68 (33.0)     |
| Malay                             | 887 (55.4)                    | 304 (34.3)    | 286 (32.2)    | 297 (33.5)    |
| Indian                            | 119 (7.4)                     | 49 (41.2)     | 40 (33.6)     | 30 (25.2)     |
| Chinese                           | 390 (24.3)                    | 110 (28.2)    | 141 (36.2)    | 139 (35.6)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.130</b>                  |               |               |               |
| <b>Marital status</b>             |                               |               |               |               |
| Single/Widow/divorced/ separated  | 814 (50.8)                    | 283 (34.8)    | 272 (33.4)    | 259 (31.8)    |
| Married/ living together          | 788 (49.2)                    | 251 (31.9)    | 262 (33.2)    | 275 (34.9)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.339</b>                  |               |               |               |
| <b>Number of children</b>         |                               |               |               |               |
| No Children                       | 860 (53.7)                    | 290 (33.7)    | 294 (34.2)    | 276 (32.1)    |
| 1-2 Children                      | 385 (24.0)                    | 125 (32.5)    | 131 (34.0)    | 129 (33.5)    |
| 3 or more Children                | 357 (22.3)                    | 119 (33.3)    | 109 (30.5)    | 129 (36.1)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.654</b>                  |               |               |               |
| <b>Number of family members</b>   |                               |               |               |               |
| 1 Person                          | 42 (2.6)                      | 11 (26.2)     | 11 (26.2)     | 20 (47.6)     |
| 2 Persons                         | 128 (8.0)                     | 40 (31.3)     | 38 (29.7)     | 50 (39.1)     |
| 3-5 Persons                       | 1023 (63.8)                   | 346 (33.8)    | 349 (34.1)    | 328 (32.1)    |
| 6 Persons and above               | 409 (25.5)                    | 137 (33.5)    | 136 (33.3)    | 138 (33.3)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.364</b>                  |               |               |               |
| <b>Urbanization</b>               |                               |               |               |               |
| Urban                             | 1459 (91.1)                   | 497 (34.1)    | 484 (33.2)    | 478 (32.8)    |
| Rural                             | 143 (8.9)                     | 37 (25.9)     | 50 (35.0)     | 56 (39.2)     |
| <i>P-Value</i> <sup>1</sup>       | <b>0.114</b>                  |               |               |               |
| <b>Metropolization</b>            |                               |               |               |               |
| Metropolitan city                 | 656 (40.9)                    | 206 (31.4)    | 222 (33.8)    | 228 (34.8)    |
| Rural peninsular                  | 630 (39.3)                    | 208 (33.0)    | 216 (34.3)    | 206 (32.7)    |
| Sabah Sarawak                     | 316 (19.8)                    | 120 (38.0)    | 96 (30.4)     | 100 (31.6)    |
| <i>P-Value</i> <sup>1</sup>       | <b>0.332</b>                  |               |               |               |
| <b>Highest level of education</b> |                               |               |               |               |
| Primary or lower                  | 124 (7.7)                     | 35 (28.2)     | 43 (34.7)     | 46 (37.1)     |
| Lower secondary school            | 260 (16.2)                    | 103 (39.6)    | 80 (30.8)     | 77 (29.6)     |
| Upper secondary school            | 714 (44.5)                    | 222 (31.1)    | 240 (33.6)    | 252 (35.3)    |

|  | <b>Malaysian Food<br/>Barometer 2</b> | <b>NRF Tertile 1</b> | <b>NRF Tertile 2</b> | <b>NRF Tertile 3</b> |
|--|---------------------------------------|----------------------|----------------------|----------------------|
|  | <b>N (%)</b>                          | <b>N(%)</b>          | <b>N (%)</b>         | <b>N (%)</b>         |
| College / University   | 504 (31.5)                            | 174 (34.5)           | 171 (33.9)           | 159 (31.5)           |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.179</b>                          |                      |                      |                      |
| <b>Occupation</b>  |                                       |                      |                      |                      |
| Professional   | 253 (15.9)                            | 74 (29.2)            | 97 (38.3)            | 82 (32.4)            |
| Blue Collar  | 367 (22.9)                            | 126 (34.3)           | 126 (34.3)           | 115 (31.3)           |
| White Collar   | 982 (61.2)                            | 334 (34.0)           | 311 (31.7)           | 337 (34.3)           |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.274</b>                          |                      |                      |                      |
| <b>Average monthly individual income (Ringgit Malaysia)</b>  |                                       |                      |                      |                      |
| 100 to 699.99  | 357 (22.3)                            | 136 (38.1)           | 120 (33.6)           | 101 (28.3)           |
| 700 to 1,332.99  | 699 (43.6)                            | 221 (31.6)           | 246 (35.2)           | 232 (33.2)           |
| 1,333 to 1,999.99  | 236 (14.8)                            | 76 (32.2)            | 72 (30.5)            | 88 (37.3)            |
| 2,000 and above  | 310 (19.3)                            | 101 (32.6)           | 96 (31.0)            | 113 (36.5)           |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.136</b>                          |                      |                      |                      |
| <b>Dynamic of personal income over the past 5 years</b>      |                                       |                      |                      |                      |
| Have decreased more than 10%                                 | 139 (8.7)                             | 50 (36.0)            | 46 (33.1)            | 43 (30.9)            |
| Have remained more or less stable or increased more than 10% | 1463 (91.3)                           | 484 (33.1)           | 488 (33.4)           | 491 (33.6)           |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.747</b>                          |                      |                      |                      |
| <b>Social position</b>                                       |                                       |                      |                      |                      |
| Low  | 357 (50.1)                            | 136 (38.1)           | 120 (33.6)           | 101 (28.3)           |
| Middle   | 1072 (25.4)                           | 357 (33.3)           | 349 (32.6)           | 366 (34.1)           |
| High   | 173 (24.5)                            | 41 (23.7)            | 65 (37.6)            | 67 (38.7)            |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.012*</b>                         |                      |                      |                      |
| <b>BMI groups (WHO general classification)</b>               |                                       |                      |                      |                      |
| Underweight  | 165 (10.3)                            | 59 (35.8)            | 53 (32.1)            | 53 (32.1)            |
| Normal   | 882 (55.0)                            | 312 (35.4)           | 282 (32.0)           | 288 (32.7)           |
| Overweight   | 382 (23.9)                            | 116 (30.4)           | 131 (34.3)           | 135 (35.3)           |
| Obesity  | 173 (10.8)                            | 47 (27.2)            | 68 (39.3)            | 58 (33.5)            |
| <i>P-Value</i> <sup>1</sup>                                  | <b>0.273</b>                          |                      |                      |                      |

<sup>1</sup> Chi-square test for association with  $\alpha=0.05$ , \*significant result