

**Supplemental table 5** Nutrient status by quartiles/tertiles of UPF intake using a conservative approach when classifying UPFs in 16-24-year-olds participating in the VeggiSkills-Sweden study.

|                                               | E% UPF intake (range)       |                             |                       |                       | p-value*     |
|-----------------------------------------------|-----------------------------|-----------------------------|-----------------------|-----------------------|--------------|
|                                               | Median (IQR)                |                             |                       |                       |              |
| <b>All participants, n=235<sup>†</sup></b>    | <b>Q1 (2.6-29.6)</b>        | <b>Q2 (29.7-37.3)</b>       | <b>Q3 (37.4-46.6)</b> | <b>Q4 (46.7-81.9)</b> |              |
| Hb, g/L                                       | 138 (132; 145)              | 139 (133; 150)              | 141 (133; 150)        | 140 (128; 146)        | 0.598        |
| sTfR, mg/L                                    | 0.84 (0.7; 1.06)            | 0.84 (0.73; 1.00)           | 0.84 (0.69; 0.97)     | 0.86 (0.72; 0.96)     | 0.908        |
| tHcy, µmol/L                                  | 3.8 (2.9; 5.0)              | 4.4 (3.3; 5.5)              | 3.9 (2.9; 5.6)        | 3.6 (2.6; 5.1)        | 0.249        |
| MMA, µmol/L                                   | 0.10 (0.08; 0.18)           | 0.11 (0.07; 0.17)           | 0.10 (0.07; 0.18)     | 0.11 (0.07; 0.14)     | 0.658        |
| 25-OH-D3, nmol/L                              | 45 (35; 55)                 | 46 (39; 55)                 | 40 (32; 55)           | 46 (36; 53)           | 0.398        |
| <b>Vegan, n=60<sup>‡</sup></b>                | <b>T1 (11.8-40.6)</b>       | <b>T2 (41.8-48.4)</b>       | <b>T3 (48.9-81.9)</b> |                       |              |
| Hb, g/L                                       | 147 (137; 156) <sup>a</sup> | 135 (128; 144) <sup>b</sup> | 141 (129; 146)        |                       | <b>0.025</b> |
| sTfR, mg/L                                    | 0.92 (0.79; 1.16)           | 0.88 (0.72; 0.96)           | 0.86 (0.75; 0.97)     |                       | 0.484        |
| tHcy, µmol/L                                  | 4.4 (2.9; 5.9)              | 3.5 (2.6; 5.1)              | 3.4 (2.5; 4.4)        |                       | 0.358        |
| MMA, µmol/L                                   | 0.13 (0.07; 0.18)           | 0.13 (0.07; 0.2)            | 0.13 (0.11; 0.15)     |                       | 0.973        |
| 25-OH-D3, nmol/L                              | 43 (30; 55)                 | 36 (27; 48)                 | 37 (26; 52)           |                       | 0.446        |
| <b>Lacto-ovo-vegetarian, n=59<sup>§</sup></b> | <b>T1 (12.2-28.4)</b>       | <b>T2 (28.5-41.3)</b>       | <b>T3 (41.5-71.2)</b> |                       |              |
| Hb, g/L                                       | 135 (128; 144)              | 140 (136; 147)              | 141 (125; 153)        |                       | 0.374        |
| sTfR, mg/L                                    | 0.93 (0.79; 1.32)           | 0.8 (0.73; 0.95)            | 0.76 (0.72; 0.92)     |                       | 0.109        |
| tHcy, µmol/L                                  | 4 (2.9; 5)                  | 4.6 (3.3; 5.5)              | 4.9 (3.3; 7.1)        |                       | 0.113        |
| MMA, µmol/L                                   | 0.09 (0.06; 0.13)           | 0.17 (0.11; 0.24)           | 0.09 (0.07; 0.26)     |                       | 0.077        |
| 25-OH-D3, nmol/L                              | 43 (32; 51)                 | 40 (33; 53)                 | 48 (36; 53)           |                       | 0.458        |
| <b>Pescatarian, n=55<sup>  </sup></b>         | <b>T1 (17.4-32.2)</b>       | <b>T2 (32.5-40.4)</b>       | <b>T3 (40.9-63.7)</b> |                       |              |
| Hb, g/L                                       | 138 (131; 141)              | 140 (127; 150)              | 138 (128; 148)        |                       | 0.888        |
| sTfR, mg/L                                    | 0.88 (0.79; 1.23)           | 0.91 (0.73; 1.08)           | 0.74 (0.58; 0.89)     |                       | 0.086        |
| tHcy, µmol/L                                  | 4.5 (3.8; 5.5)              | 4.6 (3; 5.7)                | 4.4 (3.2; 5.8)        |                       | 0.922        |
| MMA, µmol/L                                   | 0.11 (0.08; 0.17)           | 0.12 (0.07; 0.19)           | 0.1 (0.06; 0.24)      |                       | 0.961        |
| 25-OH-D3, nmol/L                              | 54 (39; 66)                 | 50 (44; 59)                 | 53 (43; 57)           |                       | 0.877        |

| <b>Omnivore. n=61¶</b> | <b>T1 (2.6-29.8)</b> | <b>T2 (30.6-41.0)</b> | <b>T3 (41.7-72.5)</b> |  |       |
|------------------------|----------------------|-----------------------|-----------------------|--|-------|
| Hb, g/L                | 138 (135; 145)       | 142 (133; 151)        | 141 (130; 150)        |  | 0.677 |
| sTfR, mg/L             | 0.73 (0.59; 0.83)    | 0.85 (0.72; 0.97)     | 0.87 (0.7; 1.08)      |  | 0.063 |
| tHcy, µmol/L           | 3.4 (2.7; 4.1)       | 3.6 (2.7; 4.7)        | 3.3 (2.6; 4.4)        |  | 0.669 |
| MMA, µmol/L            | 0.1 (0.08; 0.22)     | 0.1 (0.07; 0.17)      | 0.09 (0.06; 0.13)     |  | 0.440 |
| 25-OH-D3, nmol/L       | 43 (34; 53)          | 44 (38; 53)           | 45 (31; 61)           |  | 0.974 |

25-OH-D3 25-hydroxyvitamin D3, *Hb* Haemoglobin, *MMA* Methylmalonic acid, *n/a* non-applicable, *Q* Quartile, *sTfR* Serum transferrin receptor, *T* Tertile, *tHcy* Homocysteine, *UPF* Ultra-processed food

Significant p-values (p<0.05) are in bold. Note that many participants, especially vegans, used supplements.

\*Differences between the quartiles/tertiles were tested using Kruskal Wallis test with Bonferroni post-hoc test to adjust for multiple comparisons. Superscript letters indicate significant differences between groups. Groups sharing the same letter are not significantly different from each other, groups with different letters differ significantly. No superscript letters = no significant differences between any groups.

†Missing data: Hb, n=5; sTfR, n=3; tHcy, n=5; MMA, n=45; Vitamin D, n=16

‡Missing data: Hb, n=2; tHcy, n=3; MMA, n=12; Vitamin D, n=10

§Missing data: sTfR, n=1; tHcy, n=1; MMA, n=11; Vitamin D, n=4

||Missing data: Hb, n=2; sTfR, n=1; tHcy, n=1; MMA, n=11

¶Missing data: Hb, n=1; sTfR, n=1; MMA, n=11; Vitamin D, n=2