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| **Supplementary table 1**: Pearson correlation coefficients between nutrients associated with depressive symptoms at the 14-year follow-up of the Raine Study | | | | | | | | | | | | | |
|  | Dietary fibre (g) | Healthy pattern | Western pattern | Potassium (mg) | Magnesium (mg) | Iron (mg) | Copper (mg) | Zinc (mg) | Thiamine (mg) | Riboflavin (mg) | Vitamin B6 (mg) | Folate (ug) |
| Dietary fibre | 1 |  |  |  |  |  |  |  |  |  |  |  |
| Healthy pattern | 0.75 | 1 |  |  |  |  |  |  |  |  |  |  |
| Western pattern | 0.36 | 0.02 | 1 |  |  |  |  |  |  |  |  |  |
| Potassium | 0.85 | 0.64 | 0.47 | 1 |  |  |  |  |  |  |  |  |
| Magnesium | 0.82 | 0.57 | 0.45 | 0.95 | 1 |  |  |  |  |  |  |  |
| Iron | 0.78 | 0.78 | 0.60 | 0.84 | 0.88 | 1 |  |  |  |  |  |  |
| Copper | 0.83 | 0.61 | 0.59 | 0.90 | 0.88 | 0.88 | 1 |  |  |  |  |  |
| Zinc | 0.66 | 0.47 | 0.63 | 0.83 | 0.85 | 0.85 | 0.84 | 1 |  |  |  |  |
| Thiamine | 0.71 | 0.39 | 0.43 | 0.79 | 0.87 | 0.89 | 0.77 | 0.75 | 1 |  |  |  |
| Riboflavin | 0.62 | 0.41 | 0.37 | 0.91 | 0.91 | 0.83 | 0.76 | 0.81 | 0.88 | 1 |  |  |
| Vitamin B6 | 0.84 | 0.61 | 0.48 | 0.84 | 0.84 | 0.79 | 0.87 | 0.77 | 0.71 | 0.70 | 1 |  |
| Folate | 0.83 | 0.74 | 0.28 | 0.79 | 0.79 | 0.73 | 0.80 | 0.65 | 0.68 | 0.65 | 0.81 | 1 |
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| **Supplementary table 2:** Variance inflation factors for individual nutrients associated with dietary fibre intake and depressive symptoms at the 14-year follow-up of the Raine Study | |
|  | VIF |
| Dietary fibre (g) | 7.14 |
| Potassium (mg) | 24.44 |
| Magnesium (mg) | 22.71 |
| Iron (mg) | 8.07 |
| Copper (mg) | 6.53 |
| Zinc (mg) | 5.52 |
| Thiamine (mg) | 7.66 |
| Riboflavin (mg) | 12.32 |
| Vitamin B6 (mg) | 7.80 |
| Folate (ug) | 4.13 |
| VIF, variance inflation factor (a measure of multicollinearity) | |

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| **Supplementary table 3:** Characteristics of participants in the principle analysis and in the subset with data on inflammatory markers | | | | | | | | | |
|  | 14-year follow-up | | | |  | 17-year follow-up | | | | | |
|  | Full dataset (n=1260) | | Inflammation dataset (n=718) | |  | Full dataset (n=653) | | Inflammation dataset (n=547) | | |
|  | % | (n) | % | (n) |  | % | (n) | % | (n) | |
| Gender |  |  |  |  |  |  |  |  |  | |
| Female | 48 | (611) | 48 | (347) |  | 54 | (354) | 52 | (284) | |
| Male | 52 | (649) | 52 | (371) |  | 46 | (299) | 48 | (263) | |
| Depressive symptoms (BDI-Y) |  |  |  |  |  |  |  |  |  | |
| Average | 92 | (1155) | 92 | (659) |  | 83 | (542) | 84 | (462) | |
| Mildly elevated | 5 | (61) | 4 | (32) |  | 10 | (65) | 9 | (49) | |
| Moderately elevated | 2 | (29) | 2 | (15) |  | 5 | (31) | 4 | (24) | |
| Extremely elevated | 1 | (15) | 2 | (12) |  | 2 | (15) | 2 | (12) | |
| Physical activity (times/week) |  |  |  |  |  |  |  |  |  | |
| None | 9 | (108) | 8 | (61) |  | 20 | (131) | 20 | (108) | |
| 1 | 20 | (255) | 20 | (145) |  | 21 | (136) | 20 | (111) | |
| 2-3 | 38 | (475) | 37 | (265) |  | 34 | (220) | 34 | (186) | |
| 4-6 | 21 | (270) | 22 | (160) |  | 17 | (108) | 17 | (95) | |
| 7 | 12 | (152) | 12 | (87) |  | 9 | (58) | 9 | (47) | |
| Binge drinking\* |  |  |  |  |  |  |  |  |  | |
| Never | 93 | (1168) | 92 | (663) |  | 44 | (287) | 44 | (242) | |
| Once or more | 7 | (92) | 8 | (55) |  | 56 | (366) | 56 | (305) | |
| Parental education |  |  |  |  |  |  |  |  |  | |
| None | 13 | (163) | 15 | (109) |  | 10 | (66) | 11 | (58) | |
| Year 12 | 10 | (126) | 9 | (62) |  | 8 | (55) | 8 | (44) | |
| Trade/TAFE | 24 | (424) | 33 | (238) |  | 31 | (203) | 30 | (163) | |
| University | 43 | (547) | 43 | (309) |  | 50 | (329) | 52 | (282) | |
| Family income (AUD) |  |  |  |  |  |  |  |  |  | |
| ≤35,000 | 23 | (284) | 24 | (171) |  | 10 | (68) | 10 | (57) | |
| 35,001-70,000 | 36 | (454) | 36 | (260) |  | 25 | (162) | 25 | (136) | |
| 70,001-104,000 | 23 | (291) | 22 | (156) |  | 29 | (188) | 29 | (156) | |
| >104,000 | 18 | (231) | 18 | (131) |  | 36 | (235) | 36 | (198) | |
| Parental history of mental illness |  |  |  |  |  |  |  |  |  | |
| Neither | 67 | (850) | 66 | (476) |  | 65 | (422) | 65 | (353) | |
| One | 28 | (354) | 28 | (204) |  | 29 | (192) | 29 | (159) | |
| Both | 4 | (56) | 5 | (38) |  | 6 | (39) | 6 | (35) | |
|  | Mean | (SD) | Mean | (SD) |  | Mean | (SD) | Mean | (SD) | |
| WHtR | 0.46 | (0.062) | 0.47 | (0.065) |  | 0.46 | (0.060) | 0.46 | (0.059) | |
| Female | 0.46 | (0.061) | 0.47 | (0.062) |  | 0.46 | (0.061) | 0.47 | (0.064) | |
| Male | 0.46 | (0.064) | 0.47 | (0.068) |  | 0.46 | (0.053) | 0.45 | (0.052) | |
| Energy (MJ) | 9.59 | (2.99) | 9.63 | (3.05) |  | 9.26 | (3.26) | 9.27 | (3.28) | |
| Fibre (g/day) | 23.7 | (8.77) | 24.0 | (8.72) |  | 22.3 | (8.86) | 22.4 | (8.84) | |
| Healthy pattern | -0.040 | (0.88) | -0.0051 | (0.86) |  | -0.012 | (0.86) | 0.00073 | (0.86) | |
| Western pattern | -0.0062 | (0.85) | -0.0042 | (0.87) |  | -0.041 | (0.80) | -0.052 | (0.80) | |
| BDI-Y, Beck Depression Inventory for Youth; TAFE, technical and further education; WHtR, waist height ratio | | | | | | | | | |
| \*Classified as consuming more than 6 drinks on one occasion | | | | | | | | | |
| Percentages were rounded to the nearest 1% | | | | | | | | | |

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| **Supplementary table 4**: Results of fully adjusted multivariable models (model 3) of odds ratios of moderate/extreme depressive symptoms with overall, cereal, and fruit and vegetable fibre in the principle analysis (n=1913\*) | | | | | | | | | | | | |
|  | Overall fibre | | |  | Cereal fibre | | |  | Fruit and vegetable fibre | | |
|  | OR | 95% CI | P |  | OR | 95% CI | P |  | OR | 95% CI | P |
| Gender |  |  |  |  |  |  |  |  |  |  |  |
| Female | Reference | |  |  | Reference | |  |  | Reference | |  |
| Male | **0.397** | **0.21-0.77** | **0.006** |  | **0.450** | **0.24-0.85** | **0.013** |  | **0.408** | **0.22-0.77** | **0.005** |
| Dietary fibre intake |  |  |  |  |  |  |  |  |  |  |  |
| 1st quartile | Reference | |  |  | Reference | |  |  | Reference | |  |
| 2nd quartile | 0.894 | 0.44-1.82 | 0.757 |  | 0.697 | 0.35-1.39 | 0.304 |  | 1.23 | 0.64-2.38 | 0.536 |
| 3rd quartile | 0.953 | 0.43-2.10 | 0.904 |  | 0.547 | 0.21-1.01 | 0.053 |  | 0.854 | 0.41-1.76 | 0.669 |
| 4th quartile | **0.273** | **0.09-0.81** | **0.019** |  | 0.505 | 0.21-1.23 | 0.133 |  | 0.468 | 0.20-1.11 | 0.085 |
| Physical activity (times/week) |  |  |  |  |  |  |  |  |  |  |  |
| None | Reference | |  |  | Reference | |  |  | Reference | |  |
| 1 | 0.811 | 0.38-1.73 | 0.587 |  | 0.767 | 0.36-1.62 | 0.486 |  | 0.801 | 0.38-1.67 | 0.555 |
| 2-3 | 0.585 | 0.28-1.23 | 0.158 |  | 0.567 | 0.27-1.18 | 0.131 |  | 0.567 | 0.27-1.17 | 0.126 |
| 4-6 | 0.406 | 0.16-1.06 | 0.066 |  | 0.389 | 0.15-1.00 | 0.051 |  | 0.403 | 0.16-1.03 | 0.057 |
| 7 | 0.440 | 0.14-1.38 | 0.158 |  | 0.403 | 0.13-1.24 | 0.114 |  | 0.444 | 0.15-1.35 | 0.153 |
| Binge drinking\* |  |  |  |  |  |  |  |  |  |  |  |
| Never | Reference | |  |  | Reference | |  |  | Reference | |  |
| Once or more | **2.75** | **1.41-5.36** | **0.003** |  | **2.62** | **1.37-5.01** | **0.004** |  | **2.62** | **1.38-4.99** | **0.003** |
| Parental education |  |  |  |  |  |  |  |  |  |  |  |
| None | Reference | |  |  | Reference | |  |  | Reference | |  |
| Year 12 | 0.816 | 0.28-2.39 | 0.711 |  | 0.771 | 0.27-2.22 | 0.630 |  | 0.800 | 0.28-2.27 | 0.676 |
| Trade/TAFE\*\* | 0.601 | 0.26-1.39 | 0.234 |  | 0.638 | 0.28-1.46 | 0.285 |  | 0.617 | 0.27-1.39 | 0.245 |
| University | 0.879 | 0.38-2.01 | 0.758 |  | 0.890 | 0.39-2.01 | 0.778 |  | 0.897 | 0.40-2.00 | 0.790 |
| Family income (AUD) |  |  |  |  |  |  |  |  |  |  |  |
| ≤35,000 | Reference | |  |  | Reference | |  |  | Reference | |  |
| 35,001-70,000 | 0.693 | 0.32-1.48 | 0.342 |  | 0.691 | 0.33-1.47 | 0.335 |  | 0.688 | 0.33-1.44 | 0.321 |
| 70,001-104,000 | 1.09 | 0.50-2.38 | 0.824 |  | 1.06 | 0.49-2.28 | 0.883 |  | 1.07 | 0.50-2.27 | 0.868 |
| >104,000 | 0.791 | 0.33-1.88 | 0.596 |  | 0.78 | 0.33-1.83 | 0.560 |  | 0.784 | 0.34-1.83 | 0.573 |
| Parental history of mental illness |  |  |  |  |  |  |  |  |  |  |  |
| Neither | Reference | |  |  | Reference | |  |  | Reference | |  |
| One | 1.41 | 0.79-2.51 | 0.247 |  | 1.38 | 0.78-2.43 | 0.270 |  | 1.37 | 0.78-2.40 | 0.271 |
| Both | 2.12 | 0.76-5.89 | 0.149 |  | 2.07 | 0.76-5.62 | 0.155 |  | 2.01 | 0.75-5.40 | 0.165 |
| Dietary misreporting |  |  |  |  |  |  |  |  |  |  |  |
| Plausible | Reference | |  |  | Reference | |  |  | Reference | |  |
| Under-reporting | 1.52 | 0.64-3.59 | 0.342 |  | 1.43 | 0.61-3.33 | 0.408 |  | 1.46 | 0.63-3.36 | 0.375 |
| Over-reporting | 2.53 | 0.72-8.86 | 0.146 |  | 2.13 | 0.64-7.13 | 0.219 |  | 2.28 | 0.68-7.60 | 0.180 |
| Follow-up year |  |  |  |  |  |  |  |  |  |  |  |
| Year 14 | Reference | |  |  | Reference | |  |  | Reference | |  |
| Year 17 | 1.09 | 0.57-2.10 | 0.794 |  | 1.13 | 0.59-2.14 | 0.718 |  | 1.11 | 0.58-2.11 | 0.760 |
| WHtR | 1.44 | 0.94-2.21 | 0.098 |  | 1.43 | 0.93-2.18 | 0.100 |  | 1.44 | 0.95-2.18 | 0.086 |
| Energy (MJ) | 1.07 | 0.90-1.26 | 0.458 |  | 1.04 | 0.89-1.22 | 0.624 |  | 1.03 | 0.88-1.20 | 0.751 |
| Family functioning | **2.13** | **1.20-3.80** | **0.010** |  | **2.16** | **1.23-3.80** | **0.007** |  | **2.02** | **1.16-3.52** | **0.013** |
| \*1260 observations from the 14-year follow-up and 653 observations from the 17-year follow-up | | | | | | | | | | | | |
| \*\*Technical and further education | | | | | | | | | | | | |
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| **Supplementary table 5:** Adjusted odds ratios of moderate/extreme depressive symptoms per quartile of cereal and fruit and vegetable fibre intake relative to the first quartile in all models further adjusted for dietary patterns (n=1913\*) | | | | | | | | | | | |
|  | Model 1 | | |  | Model 2 | | |  | Model 3 | | |
|  | OR | 95% CI | P |  | OR | 95% CI | P |  | OR | 95% CI | P |
| Cereal fibre |  |  |  |  |  |  |  |  |  |  |  |
| 1st quartile | Reference | |  |  | Reference | |  |  | Reference | |  |
| 2nd quartile | 0.601 | 0.30-1.19 | 0.143 |  | 0.589 | 0.30-1.16 | 0.127 |  | 0.714 | 0.36-1.41 | 0.335 |
| 3rd quartile | 0.457 | 0.21-1.01 | 0.053 |  | **0.444** | **0.20-0.98** | **0.044** |  | 0.491 | 0.22-1.08 | 0.078 |
| 4th quartile | 0.493 | 0.19-1.25 | 0.137 |  | 0.496 | 0.20-1.25 | 0.138 |  | 0.564 | 0.23-1.41 | 0.220 |
| Healthy pattern | 0.769 | 0.54-1.09 | 0.143 |  | 0.762 | 0.54-1.08 | 0.130 |  | 0.788 | 0.55-1.13 | 0.193 |
| Western pattern | 1.11 | 0.64-1.94 | 0.711 |  | 1.05 | 0.60-1.84 | 0.858 |  | 0.910 | 0.51-1.61 | 0.748 |
| Fruit and vegetable fibre |  |  |  |  |  |  |  |  |  |  |  |
| 1st quartile | Reference | |  |  | Reference | |  |  | Reference | |  |
| 2nd quartile | 1.11 | 0.56-2.19 | 0.767 |  | 1.12 | 0.56-2.21 | 0.749 |  | 1.30 | 0.65-2.60 | 0.452 |
| 3rd quartile | 0.704 | 0.31-1.59 | 0.399 |  | 0.697 | 0.31-1.57 | 0.384 |  | 0.944 | 0.42-2.13 | 0.889 |
| 4th quartile | 0.380 | 0.12-1.17 | 0.091 |  | 0.372 | 0.12-1.14 | 0.084 |  | 0.563 | 0.19-1.70 | 0.309 |
| Healthy pattern | 0.957 | 0.61-1.51 | 0.851 |  | 0.953 | 0.60-1.50 | 0.837 |  | 0.880 | 0.55-1.40 | 0.589 |
| Western pattern | 1.21 | 0.69-2.10 | 0.504 |  | 1.14 | 0.65-1.99 | 0.640 |  | 0.953 | 0.54-1.68 | 0.869 |
| Model adjusted for gender, energy intake, dietary misreporting, WHtR, binge drinking, physical activity, parental education, family income, follow-up year, parental history of mental health problems, family functioning, and healthy and western dietary patterns | | | | | | | | | | | |
| \*1260 observations from the 14-year follow-up and 653 observations from the 17-year follow-up | | | | | | | | | | | |
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