Title: Dairy product consumption and changes in cognitive performance: Two-year analysis of the PREDIMED-Plus cohort

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**Supplementary Table 1.** Multivariable adjusted mean 2-year change (β-coefficients and 95% CIs)\(^a\) in individual neuropsychological tests\(^b\) according to terciles of energy-adjusted total dairy and different subtypes of dairy product consumption in the PREDIMED-Plus cohort.

|                     | Dairy product consumption\(^c\) | T1 (lowest)\(^d\) | T2          | T3 (highest) |  \(p\) trend |
|---------------------|--------------------------------|------------------|-------------|--------------|--------------|
| **MMSE (n=5,530)**  |                                | n=1,844          | n=1,843     | n=1,843      |              |
| **Total dairy** g/day, median [IQR]\(^e\) | 156 (90, 201) | 293 (266, 326) | 546 (431, 614) |              |
| Crude model         | 0 (Ref.)                        | −14.95 (−20.84 to −9.00) | −19.51 (−25.49 to −13.53) | <0.001 |
| Model 1             | 0 (Ref.)                        | −5.64 (−10.71 to −0.58) | −6.24 (−11.37 to −1.12) | 0.035 |
| Model 2             | 0 (Ref.)                        | −5.49 (−10.53 to −0.44) | −6.10 (−11.25 to −0.96) | 0.040 |
| Model 3             | 0 (Ref.)                        | −5.14 (−10.22 to −0.06) | −5.15 (−10.44 to −0.13) | 0.098 |
| **Low-fat dairy** g/day, median [IQR]\(^f\)  | 43 (2, 111) | 216 (200, 249) | 498 (334, 552) |              |
| Crude model         | 0 (Ref.)                        | −8.82 (−14.75 to −2.89) | −17.01 (−23.24 to −10.79) | <0.001 |
| Model 1             | 0 (Ref.)                        | −3.34 (−8.50 to 1.82) | −4.69 (−10.07 to 0.70) | 0.105 |
| Model 2             | 0 (Ref.)                        | −3.13 (−8.24 to 1.99) | −4.17 (−9.53 to 1.20) | 0.149 |
| Model 3             | 0 (Ref.)                        | −2.64 (−7.78 to 2.49) | −3.27 (−8.72 to 2.18) | 0.268 |
| **Whole-fat dairy** g/day, median [IQR]\(^g\)  | 14 (0, 22) | 46 (38, 55) | 131 (87, 206) |              |
| Crude model         | 0 (Ref.)                        | −10.10 (−16.35 to −3.85) | 0.92 (−5.09 to 6.92) | 0.196 |
| Model 1             | 0 (Ref.)                        | −2.22 (−7.56 to 3.12) | 3.03 (−2.19 to 8.24) | 0.131 |
| Model 2             | 0 (Ref.)                        | −1.69 (−7.04 to 3.67) | 2.84 (−2.37 to 8.06) | 0.166 |
| Model 3             | 0 (Ref.)                        | −1.35 (−6.79 to 4.10) | 3.45 (−1.87 to 8.76) | 0.116 |
| **Total milk** g/day, median [IQR]\(^h\)  | 50 (11, 111) | 196 (182, 208) | 471 (240, 503) |              |
| Crude model         | 0 (Ref.)                        | −10.88 (−16.63 to −5.13) | −22.27 (−28.49 to −16.05) | <0.001 |
| Model 1             | 0 (Ref.)                        | −4.37 (−9.40 to 0.65) | −7.84 (−13.10 to −2.57) | 0.005 |
| Model 2             | 0 (Ref.)                        | −3.37 (−8.35 to 1.61) | −7.21 (−12.45 to −1.98) | 0.008 |
| Model 3             | 0 (Ref.)                        | −2.91 (−7.93 to 2.10) | −5.76 (−11.13 to −0.40) | 0.041 |
|                      | Crude model | Model 1 | Model 2 | Model 2 |
|----------------------|-------------|---------|---------|---------|
| Whole-fat milk g/day, median [IQR] | 0 (0, 0) | 3 (1, 5) | 17 (11, 96) | <0.001 |
| Crude model | 0 (Ref.) | 7.45 (– 13.45 to – 1.46) | 12.28 (– 18.40 to – 6.15) | 0.262 |
| Model 1 | 0 (Ref.) | – 1.11 (– 6.32 to 4.10) | – 3.00 (– 8.26 to 2.27) | 0.491 |
| Model 2 | 0 (Ref.) | – 0.13 (– 5.44 to 5.18) | – 1.81 (– 7.18 to 3.57) | 0.801 |
| Model 2 | 0 (Ref.) | 0.93 (– 4.63 to 6.50) | – 0.58 (– 6.28 to 5.13) | 0.69 |
| Semi-skimmed milk g/day, median [IQR] | 0 (0, 0) | 16 (9, 25) | 206 (189, 473) | <0.001 |
| Crude model | 0 (Ref.) | – 12.19 (– 18.25 to – 6.13) | – 15.74 (– 21.81 to – 9.66) | 0.063 |
| Model 1 | 0 (Ref.) | – 2.48 (– 7.73 to 2.77) | – 5.41 (– 10.62 to – 0.20) | 0.168 |
| Model 2 | 0 (Ref.) | – 2.02 (– 7.31 to 3.26) | – 4.07 (– 9.24 to 1.10) | 0.282 |
| Model 3 | 0 (Ref.) | – 0.95 (– 6.73 to 4.84) | – 2.96 (– 8.34 to 2.43) | 0.47 |
| Skimmed milk g/day, median [IQR] | 0 (0, 0) | 2 (1, 3) | 201 (199, 498) | 0.109 |
| Crude model | 0 (Ref.) | – 14.02 (– 20.15 to – 7.89) | – 11.29 (– 17.38 to – 5.20) | 0.869 |
| Model 1 | 0 (Ref.) | – 1.65 (– 6.98 to 3.69) | – 1.22 (– 6.51 to 4.06) | 0.731 |
| Model 2 | 0 (Ref.) | – 1.42 (– 6.82 to 3.97) | – 1.53 (– 6.83 to 3.77) | 0.794 |
| Model 3 | 0 (Ref.) | – 0.62 (– 6.34 to 5.10) | – 0.93 (– 6.27 to 4.42) | 0.91 |
| Total yogurt g/day, median [IQR] | 6 (0, 13) | 56 (51, 61) | 128 (122, 136) | <0.001 |
| Crude model | 0 (Ref.) | – 10.68 (– 16.70 to – 4.66) | – 12.02 (– 18.08 to – 5.95) | 0.63 |
| Model 1 | 0 (Ref.) | – 5.47 (– 10.69 to – 0.26) | – 4.48 (– 9.65 to 0.69) | 0.127 |
| Model 2 | 0 (Ref.) | – 5.69 (– 10.87 to – 0.51) | – 4.90 (– 10.07 to 0.27) | 0.093 |
| Model 3 | 0 (Ref.) | – 5.66 (– 10.87 to – 0.46) | – 5.06 (– 10.25 to 0.14) | 0.084 |
| Total cheese g/day, median [IQR] | 10 (5, 14) | 26 (22, 30) | 48 (42, 60) | 0.037 |
| Crude model | 0 (Ref.) | – 3.53 (– 9.74 to 2.68) | 0.71 (– 5.37 to 6.79) | 0.731 |
| Model 1 | 0 (Ref.) | 1.63 (– 3.66 to 6.92) | 5.49 (0.24 to 10.73) | 0.106 |
| Model 2 | 0 (Ref.) | 2.19 (– 3.05 to 7.43) | 4.32 (– 0.90 to 9.53) | 0.037 |
| Model 3 | 0 (Ref.) | 2.36 (– 2.89 to 7.60) | 4.23 (– 1.08 to 9.53) | 0.122 |
| Total fermented dairy products g/day, median [IQR]† | 31 (17, 46) | 89 (75, 108) | 163 (147, 217) |
|-------------------------------------------------|-------------|-------------|-------------|
| Crude model                                     | 0 (Ref.)    | 9.37 (–15.36 to –3.38) | 10.71 (–16.80 to –4.62) |
| Model 1                                          | 0 (Ref.)    | 2.13 (–7.32 to 3.07)  | 1.38 (–6.57 to 3.80)  |
| Model 2                                          | 0 (Ref.)    | 2.31 (–7.46 to 2.85)  | 2.08 (–7.25 to 3.10)  |
| Model 3                                          | 0 (Ref.)    | 2.35 (–7.53 to 2.84)  | 2.25 (–7.51 to 3.00)  |

| CDT (n=5,531) | n=1,844 | n=1,844 | n=1,844 |
|---------------|---------|---------|---------|
| Total dairy g/day, median [IQR]‡ | 156 (90, 202) | 293 (267, 326) | 546 (432, 614) |
| Crude model                                          | 0 (Ref.)    | 10.30 (–16.44 to –4.15) | 15.94 (–22.22 to –9.67) |
| Model 1                                              | 0 (Ref.)    | 4.64 (–10.47 to 1.20)  | 7.47 (–13.42 to –1.52)  |
| Model 2                                              | 0 (Ref.)    | 4.11 (–9.91 to 1.69)   | 6.33 (–13.24 to –0.31)  |
| Model 3                                              | 0 (Ref.)    | 3.66 (–9.47 to 2.15)   | 5.66 (–11.86 to 0.53)   |
| Low-fat dairy g/day, median [IQR]§                  | 43 (2, 112)  | 217 (200, 249)        | 498 (334, 552)         |
| Crude model                                          | 0 (Ref.)    | 4.21 (–10.41 to 1.99)  | 14.38 (–20.70 to –8.05) |
| Model 1                                              | 0 (Ref.)    | 0.22 (–6.02 to 5.58)   | 5.49 (–11.50 to 0.52)   |
| Model 2                                              | 0 (Ref.)    | 0.15 (–5.92 to 5.63)   | 4.31 (–10.37 to 1.76)   |
| Model 3                                              | 0 (Ref.)    | 0.49 (–5.28 to 6.25)   | 3.36 (–9.51 to 2.79)    |
| Whole-fat dairy g/day, median [IQR]§                 | 14 (0, 22)   | 46 (38, 54)           | 130 (87, 206)          |
| Crude model                                          | 0 (Ref.)    | 11.95 (–18.32 to –5.59) | 2.60 (–8.71 to 3.52)  |
| Model 1                                              | 0 (Ref.)    | 6.67 (–12.63 to –0.72) | 3.23 (–9.00 to 2.54)   |
| Model 2                                              | 0 (Ref.)    | 6.17 (–12.17 to –0.17) | 3.08 (–8.86 to 2.70)   |
| Model 3                                              | 0 (Ref.)    | 5.79 (–11.88 to 0.31)  | 3.07 (–9.03 to 2.88)   |
| Total milk g/day, median [IQR]§                      | 49 (11, 112) | 196 (182, 208)        | 471 (240, 503)         |
| Crude model                                          | 0 (Ref.)    | 5.33 (–11.42 to 0.76)  | 17.42 (–23.82 to –11.02) |
| Model 1                                              | 0 (Ref.)    | 1.17 (–6.92 to 4.57)   | 7.69 (–13.70 to –1.68)  |
| Model 2                                              | 0 (Ref.)    | 0.06 (–5.76 to 5.64)   | 6.14 (–12.20 to –0.07)  |
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|                        | Crude model | Model 1 | Model 2 | Model 3 | Median (IQR) | P-value |
|------------------------|-------------|---------|---------|---------|--------------|---------|
| **Whole-fat milk g/day** | 0 (Ref.)    | 0.46 (-5.25 to 6.17) | - 5.65 (-11.91 to 0.60) | 0.056 |
| **Semi-skimmed milk g/day** | 0 (Ref.)    | - 7.07 (-13.29 to -0.86) | - 11.11 (-17.43 to -4.78) | <0.001 |
| **Skimmed milk g/day**   | 0 (Ref.)    | - 1.62 (-7.46 to 4.22) | - 7.07 (-12.97 to -1.17) | 0.017 |
| **Total yogurt g/day**   | 0 (Ref.)    | - 1.25 (-7.20 to 4.69) | - 6.21 (-12.32 to -0.10) | 0.040 |
| **Total cheese g/day**   | 0 (Ref.)    | - 0.76 (-7.00 to 5.48) | - 6.76 (-13.26 to -0.25) | 0.033 |
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| Model                  | 0 (Ref.) | 1.29 (– 7.21 to 4.62) | 1.82 (– 4.07 to 7.71) | 0.500 |
|------------------------|----------|-----------------------|-----------------------|-------|
| **Total fermented dairy products** g/day, median [IQR]** | 31 (18, 46) | 89 (76, 108) | 163 (147, 215) | 0.005 |
| Crude model            | 0 (Ref.) | – 6.31 (– 12.54 to – 0.08) | – 9.05 (– 15.28 to – 2.81) | 0.174 |
| Model 1                | 0 (Ref.) | – 0.95 (– 6.85 to 4.94) | – 4.02 (– 9.93 to 1.89) | 0.126 |
| Model 2                | 0 (Ref.) | – 0.94 (– 6.79 to 4.91) | – 4.50 (– 10.38 to 1.39) | 0.177 |
| Model 3                | 0 (Ref.) | – 0.66 (– 6.54 to 5.21) | – 3.98 (– 9.93 to 1.96) | 0.021 |

| **Low-fat dairy** g/day, median [IQR]** | 43 (3, 112) | 216 (200, 249) | 498 (334, 552) | <0.001 |
| Crude model            | 0 (Ref.) | – 8.93 (– 15.50 to – 2.35) | – 21.42 (– 27.96 to – 14.88) | 0.004 |
| Model 1                | 0 (Ref.) | – 2.68 (– 7.73 to 2.37) | – 7.39 (– 12.50 to – 2.28) | 0.010 |
| Model 2                | 0 (Ref.) | – 2.47 (– 7.43 to 2.49) | – 6.64 (– 11.75 to – 1.54) | 0.016 |
| Model 3                | 0 (Ref.) | – 2.17 (– 7.15 to 2.80) | – 6.33 (– 11.51 to – 1.14) | 0.203 |

| **Whole-fat dairy** g/day, median [IQR]** | 14 (0, 22) | 46 (38, 54) | 129 (87, 205) | 0.410 |
| Crude model            | 0 (Ref.) | – 10.85 (– 17.36 to – 4.34) | – 6.66 (– 13.26 to – 0.05) | 0.342 |
| Model 1                | 0 (Ref.) | – 2.32 (– 7.44 to 2.80) | – 2.50 (– 7.56 to 2.55) | 0.368 |
| Model 2                | 0 (Ref.) | – 2.07 (– 7.16 to 3.02) | – 2.80 (– 7.80 to 2.20) | 0.001 |
| Model 3                | 0 (Ref.) | – 1.30 (– 6.50 to 3.89) | – 2.45 (– 7.58 to 2.67) | 0.001 |

| **Total milk** g/day, median [IQR]** | 50 (11, 112) | 196 (182, 208) | 471 (241, 503) | <0.001 |
| Crude model            | 0 (Ref.) | – 14.13 (– 20.61 to – 7.64) | – 25.98 (– 32.54 to – 19.42) | <0.001 |
| Model 1                | 0 (Ref.) | – 3.77 (– 8.83 to 1.30) | – 8.86 (– 13.94 to – 3.79) | <0.001 |
|                              | Model 2 | Model 3 | Whole-fat milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Semi-skimmed milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Skimmed milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Total yogurt g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Total cheese g/day, median [IQR] | Crude model | Model 1 |
|------------------------------|---------|---------|-----------------------------------|-------------|---------|---------|---------|---------------------------------------|-------------|---------|---------|---------|---------------------------------|-------------|---------|---------|---------|---------------------------------|-------------|---------|---------|---------|---------------------------------|-------------|---------|
|                              | 0 (Ref.)|         | 0 (0, 0)                          | 3 (1, 5)    | 17 (11, 96) | 0 (Ref.) |         | 0 (0, 0)                          | 16 (9, 25)  | 206 (189, 473) | 0 (Ref.) |         | 0 (Ref.) |         | 0 (Ref.)                          | 0 (Ref.)     | 0 (Ref.) |         | 0 (Ref.) | 6 (0, 13)                          | 55 (51, 61)  | 127 (122, 135) |
|                              |         |         |                                   |             |          |         |         | Crude model                          |             |          |         |         | Model 1                          | 0.069       |         |         |         | Model 2                          | 0.026       |         |         |         | Model 3                          | 0.027       |         |         |         | Total yogurt                      | <0.001      |         |         |         | Total cheese                     | 0.797       |         |         |         | Crude model                      |             |         |         |         | 0.549 |
|                              |         |         |                                   |             |          |         |         | Model 1                              |             |          |         |         | Model 2                          | 0.028       |         |         |         | Model 3                          | 0.009       |         |         |         | Total cheese                      | 0.797       |         |         |         | Crude model                      |             |         |         |         | 0.549 |
|                              |         |         |                                   |             |          |         |         | Model 2                              |             |          |         |         | Model 3                          | 0.009       |         |         |         | Total cheese                      | 0.797       |         |         |         | Crude model                      |             |         |         |         | 0.549 |
|                              |         |         |                                   |             |          |         |         | Model 3                              |             |          |         |         | Total cheese                      |             |         |         |         | Crude model                      |             |         |         |         | 0.549 |

Note: The values are presented in grams per day, with median [interquartile range (IQR)].
|                          | n=1,893 | n=1,893 | n=1,893 |
|--------------------------|---------|---------|---------|
| **Total fermented dairy products g/day, median [IQR]** | 31 (18, 46) | 88 (75, 107) | 162 (147, 209) |
| Crude model              | 0 (Ref.) | -9.66 (– 16.22 to – 3.11) | -14.88 (– 21.48 to – 8.28) |
| Model 1                  | 0 (Ref.) | -0.59 (– 5.68 to 4.51) | -3.78 (– 8.90 to 1.34) |
| Model 2                  | 0 (Ref.) | -0.91 (– 5.91 to 4.09) | -5.15 (– 10.20 to – 0.09) |
| Model 3                  | 0 (Ref.) | -0.51 (– 5.53 to 4.51) | -4.93 (– 10.06 to 0.20) |
| **VFT-p (n=5,679)**     |         |         |         |
| **Total dairy g/day, median [IQR]** | 155 (90, 202) | 293 (266, 325) | 545 (430, 613) |
| Crude model              | 0 (Ref.) | -6.78 (– 13.52 to – 0.05) | -17.96 (– 24.73 to – 11.18) |
| Model 1                  | 0 (Ref.) | 4.87 (– 0.05 to 9.79) | -3.40 (– 8.49 to 1.68) |
| Model 2                  | 0 (Ref.) | 5.57 (0.72 to 10.43) | -2.35 (– 7.46 to 2.75) |
| Model 3                  | 0 (Ref.) | 6.15 (1.27 to 11.03) | -1.96 (– 7.24 to 3.32) |
| **Low-fat dairy g/day, median [IQR]** | 44 (3, 112) | 216 (200, 249) | 498 (334, 552) |
| Crude model              | 0 (Ref.) | -4.96 (– 11.70 to 1.77) | -16.82 (– 23.59 to – 10.05) |
| Model 1                  | 0 (Ref.) | 1.90 (– 2.96 to 6.76) | -3.12 (– 8.17 to 1.94) |
| Model 2                  | 0 (Ref.) | 2.07 (– 2.72 to 6.86) | -2.00 (– 7.06 to 3.06) |
| Model 3                  | 0 (Ref.) | 2.49 (– 2.31 to 7.30) | -1.59 (– 6.72 to 3.54) |
| **Whole-fat dairy g/day, median [IQR]** | 14 (0, 22) | 46 (38, 54) | 129 (87, 205) |
| Crude model              | 0 (Ref.) | -2.90 (– 9.66 to 3.87) | -3.71 (– 10.39 to 2.97) |
| Model 1                  | 0 (Ref.) | 3.01 (– 1.93 to 7.96) | -1.09 (– 6.07 to 3.89) |
| Model 2                  | 0 (Ref.) | 3.51 (– 1.43 to 8.45) | -1.14 (– 6.08 to 3.79) |
| Model 3                  | 0 (Ref.) | 4.56 (– 0.50 to 9.63) | -0.97 (– 6.04 to 4.10) |
| **Total milk g/day, median [IQR]** | 50 (11, 112) | 196 (182, 208) | 471 (241, 503) |
| Crude model              | 0 (Ref.) | -12.41 (– 19.09 to – 5.72) | -20.05 (– 26.83 to – 13.26) |

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- p < 0.001
### Crude model

| Model   | Crude model | 0 (Ref.) | 1.09 (−6.00 to 3.82) | 4.02 (−9.07 to 1.03) | 0.108 |
|---------|-------------|----------|----------------------|----------------------|--------|
|         | Model 2     | 0 (Ref.) | 0.44 (−4.41 to 5.29) | 2.58 (−7.60 to 2.45) | 0.259  |
|         | Model 3     | 0 (Ref.) | 0.82 (−4.05 to 5.70) | 1.95 (−7.12 to 3.23) | 0.395  |
| **Total cheese** g/day, median [IQR] | **Whole-fat milk** g/day, median [IQR] | 0 (0, 3) | 3 (1, 5) | 17 (11, 96) | <0.001 |
|         | Crude model | 0 (Ref.) | 11.43 (−18.24 to −4.62) | 18.13 (−24.90 to −11.36) | 0.038  |
|         | Model 1     | 0 (Ref.) | 1.92 (−6.85 to 3.02) | 4.20 (−9.19 to 0.80) | 0.099  |
|         | Model 2     | 0 (Ref.) | 1.34 (−6.33 to 3.65) | 3.64 (−8.79 to 1.51) | 0.159  |
|         | Model 3     | 0 (Ref.) | 0.06 (−5.25 to 5.36) | 2.88 (−8.38 to 2.63) | 0.275  |

### Semi-skimmed milk g/day, median [IQR]

| Model   | Crude model | 0 (Ref.) | 12.93 (−19.69 to −6.17) | 11.56 (−18.29 to −4.83) | 0.038  |
|---------|-------------|----------|--------------------------|--------------------------|--------|
|         | Model 1     | 0 (Ref.) | 2.67 (−7.61 to 2.26) | 1.55 (−6.41 to 3.31) | 0.839  |
|         | Model 2     | 0 (Ref.) | 2.58 (−7.61 to 2.45) | 0.38 (−4.44 to 5.20) | 0.494  |
|         | Model 3     | 0 (Ref.) | 1.13 (−6.45 to 4.19) | 1.43 (−3.48 to 6.35) | 0.371  |
| **Total yogurt** g/day, median [IQR] | **Skimmed milk** g/day, median [IQR] | 0 (0, 16) | 16 (9, 25) | 206 (189, 473) | 0.112  |
|         | Crude model | 0 (Ref.) | 8.80 (−15.55 to −2.05) | 9.07 (−15.83 to −2.31) | 0.961  |
|         | Model 1     | 0 (Ref.) | 0.64 (−4.32 to 5.61) | 0.44 (−4.63 to 5.50) | 0.788  |
|         | Model 2     | 0 (Ref.) | 1.08 (−3.94 to 6.10) | 0.04 (−5.10 to 5.01) | 0.831  |
|         | Model 3     | 0 (Ref.) | 2.82 (−2.56 to 8.20) | 0.95 (−4.22 to 6.13) | 0.395  |

### Total cheese g/day, median [IQR]

| Model   | Crude model | 0 (Ref.) | 1.37 (−8.12 to 5.38) | 1.28 (−5.53 to 8.09) | 0.674  |
|---------|-------------|----------|----------------------|----------------------|--------|
|         | Model 1     | 0 (Ref.) | 3.74 (−1.21 to 8.69) | 1.44 (−3.53 to 6.41) | 0.675  |
|         | Model 2     | 0 (Ref.) | 3.82 (−1.06 to 8.70) | 1.19 (−3.73 to 6.11) | 0.758  |
|         | Model 3     | 0 (Ref.) | 3.74 (−1.15 to 8.62) | 1.23 (−3.73 to 6.19) | 0.749  |
|                | Model 1 | Model 2 | Model 3 | Crude model |
|----------------|---------|---------|---------|-------------|
| **Total milk** | 0 (Ref.) | 5.98 (1.02 to 10.93) | 2.49 (~2.51 to 7.49) | 0.426 |
| **Model 2**    | 0 (Ref.) | 5.87 (0.98 to 10.76) | 0.96 (~3.95 to 5.87) | 0.860 |
| **Model 3**    | 0 (Ref.) | 6.02 (1.11 to 10.94) | 0.92 (~4.05 to 5.89) | 0.881 |

| **Total fermented dairy products** | 31 (18, 46) | 88 (75, 107) | 162 (147, 209) |
|----------------------------------|--------------|--------------|-----------------|
| **Crude model**                  | 0 (Ref.)     | – 0.16 (~6.92 to 6.59) | – 8.27 (~15.07 to 1.48) |
| **Model 1**                      | 0 (Ref.)     | 5.78 (0.81 to 10.76) | 1.20 (~3.80 to 6.20) |
| **Model 2**                      | 0 (Ref.)     | 6.21 (1.32 to 11.11) | 0.75 (~4.19 to 5.69) |
| **Model 3**                      | 0 (Ref.)     | 6.34 (1.44 to 11.25) | 0.86 (~4.13 to 5.86) |

| **TMT-A (n=5,669)** | n=1,890 | n=1,890 | n=1,889 |
|---------------------|---------|---------|---------|
| **Total dairy**     | 155 (89, 201) | 293 (266, 325) | 545 (429, 613) |
| **Crude model**     | 0 (Ref.) | 16.75 (10.75 to 22.74) | 21.27 (14.90 to 27.64) |
| **Model 1**         | 0 (Ref.) | 2.86 (~2.14 to 7.86) | 4.05 (~1.30 to 9.40) |
| **Model 2**         | 0 (Ref.) | 2.31 (~2.69 to 7.31) | 2.00 (~3.35 to 7.35) |
| **Model 3**         | 0 (Ref.) | 1.78 (~3.30 to 6.87) | 1.04 (~4.73 to 6.82) |
| **Low-fat dairy**   | 42 (2, 111) | 216 (200, 249) | 498 (334, 552) |
| **Crude model**     | 0 (Ref.) | 6.63 (0.44 to 12.82) | 15.49 (9.11 to 21.86) |
| **Model 1**         | 0 (Ref.) | ~0.73 (~5.83 to 4.37) | 0.83 (~4.46 to 6.12) |
| **Model 2**         | 0 (Ref.) | ~0.86 (~5.97 to 4.24) | ~1.35 (~6.62 to 3.93) |
| **Model 3**         | 0 (Ref.) | ~1.69 (~6.79 to 3.40) | ~2.59 (~8.07 to 2.90) |
| **Whole-fat dairy** | 14 (0, 22) | 46 (38, 54) | 129 (87, 205) |
| **Crude model**     | 0 (Ref.) | 11.84 (5.51 to 18.18) | 5.44 (~0.74 to 11.62) |
| **Model 1**         | 0 (Ref.) | 3.22 (~2.13 to 8.57) | 1.43 (~3.71 to 6.57) |
| **Model 2**         | 0 (Ref.) | 3.07 (~2.26 to 8.40) | 1.44 (~3.63 to 6.51) |
| **Model 3**         | 0 (Ref.) | 2.48 (~2.97 to 7.92) | 1.53 (~3.71 to 6.76) |
| **Total milk**      | 50 (11, 112) | 196 (182, 208) | 471 (241, 503) |

PREDIMED-Plus: Dairy Consumption and Cognitive Function
|                      | Crude model | Model 1 | Model 2 | Model 3 | Crude model | Model 1 | Model 2 | Model 3 |
|----------------------|-------------|---------|---------|---------|-------------|---------|---------|---------|
| Crude model          | 0 (Ref.)    | 12.09 (6.19 to 17.99) | 23.00 (16.43 to 29.58) | <0.001    |
| Model 1              | 0 (Ref.)    | 2.25 (~2.76 to 7.26)  | 5.46 (0.08 to 10.84)   | 0.048     |
| Model 2              | 0 (Ref.)    | 1.07 (~3.90 to 6.03)  | 3.20 (~2.17 to 8.58)   | 0.238     |
| Model 3              | 0 (Ref.)    | 1.19 (~3.84 to 6.22)  | 2.10 (~3.74 to 7.94)   | 0.494     |
| Whole-fat milk g/day, median [IQR] | 0 (0, 0) | 3 (1, 5) | 17 (11, 96) |           |
| Crude model          | 0 (Ref.)    | 11.35 (5.47 to 17.23) | 19.47 (13.06 to 25.89) | <0.001    |
| Model 1              | 0 (Ref.)    | 0.50 (~4.48 to 5.48)  | 6.22 (1.07 to 11.37)   | 0.015     |
| Model 2              | 0 (Ref.)    | 0.42 (~4.54 to 5.38)  | 5.95 (0.82 to 11.07)   | 0.019     |
| Model 3              | 0 (Ref.)    | 0.37 (~4.89 to 5.63)  | 5.37 (0.02 to 10.73)   | 0.039     |
| Semi-skimmed milk g/day, median [IQR] | 0 (0, 0) | 16 (9, 25) | 206 (189, 473) |           |
| Crude model          | 0 (Ref.)    | 9.60 (3.02 to 16.18)  | 5.93 (~0.21 to 12.08)  | 0.472     |
| Model 1              | 0 (Ref.)    | −1.23 (~6.68 to 4.22) | −1.86 (~6.90 to 3.19)  | 0.550     |
| Model 2              | 0 (Ref.)    | −0.87 (~6.11 to 4.38) | −3.40 (~8.25 to 1.46)  | 0.168     |
| Model 3              | 0 (Ref.)    | −2.90 (~8.63 to 2.83) | −4.82 (~9.86 to 0.22)  | 0.107     |
| Skimmed milk g/day, median [IQR] | 0 (0, 0) | 2 (1, 3) | 201 (199, 498) |           |
| Crude model          | 0 (Ref.)    | 13.43 (7.39 to 19.46) | 16.29 (10.03 to 22.55) | <0.001    |
| Model 1              | 0 (Ref.)    | 3.66 (~1.28 to 8.59)  | 4.36 (~0.66 to 9.39)   | 0.299     |
| Model 2              | 0 (Ref.)    | 3.81 (~1.03 to 8.65)  | 4.68 (~0.33 to 9.69)   | 0.250     |
| Model 3              | 0 (Ref.)    | 2.86 (~2.32 to 8.04)  | 3.57 (~1.43 to 8.56)   | 0.376     |
| Total yogurt g/day, median [IQR] | 6 (0, 13) | 55 (51, 61) | 127 (122, 135) |           |
| Crude model          | 0 (Ref.)    | 6.27 (0.05 to 12.49)  | 9.22 (2.92 to 15.53)   | 0.006     |
| Model 1              | 0 (Ref.)    | 0.50 (~4.55 to 5.55)  | −0.95 (~6.14 to 4.24)  | 0.691     |
| Model 2              | 0 (Ref.)    | −0.29 (~5.27 to 4.69) | −1.20 (~6.39 to 4.00)  | 0.648     |
| Model 3              | 0 (Ref.)    | −0.50 (~5.47 to 4.46) | −1.74 (~6.94 to 3.46)  | 0.508     |
| Total cheese g/day, median [IQR] | 10 (5, 14) | 26 (22, 30) | 48 (42, 60) |           |
|                          | Crude model | Model 1 | Model 2 | Model 3 |
|--------------------------|-------------|---------|---------|---------|
| **Crude model**          | 0 (Ref.)    | 12.18 (5.77 to 18.58) | 5.78 (− 0.20 to 11.75) | 0.110   |
| **Model 1**              | 0 (Ref.)    | 5.47 (0.23 to 10.71)  | 2.74 (− 2.27 to 7.76)  | 0.363   |
| **Model 2**              | 0 (Ref.)    | 5.81 (0.68 to 10.94)  | 4.35 (− 0.59 to 9.28)  | 0.116   |
| **Model 3**              | 0 (Ref.)    | 5.92 (0.77 to 11.06)  | 4.65 (− 0.31 to 9.61)  | 0.082   |
| **Total fermented dairy**| 31 (18, 46) | 31 (18, 46) | 31 (18, 46) | 31 (18, 46) |
| products g/day, median [IQR] | 31 (18, 46) | 31 (18, 46) | 31 (18, 46) | 31 (18, 46) |

|                          | Crude model | Model 1 | Model 2 | Model 3 |
|--------------------------|-------------|---------|---------|---------|
| **Total dairy** g/day, median [IQR] | 155 (90, 201) | 293 (266, 325) | 545 (430, 613) |
| **Crude model**          | 0 (Ref.)    | 14.36 (8.08 to 20.64) | 25.97 (19.58 to 32.37) | <0.001  |
| **Model 1**              | 0 (Ref.)    | − 0.11 (− 5.18 to 4.96) | 5.21 (0.00 to 10.41)  | 0.034   |
| **Model 2**              | 0 (Ref.)    | − 0.71 (− 5.66 to 4.24) | 3.37 (− 1.76 to 8.49) | 0.149   |
| **Model 3**              | 0 (Ref.)    | − 1.01 (− 5.96 to 3.95) | 3.57 (− 1.73 to 8.87) | 0.134   |
| **Low-fat dairy** g/day, median [IQR] | 43 (2, 111) | 216 (200, 249) | 498 (334, 552) |
| **Crude model**          | 0 (Ref.)    | 4.21 (− 2.06 to 10.49) | 21.99 (15.48 to 28.51) | <0.001  |
| **Model 1**              | 0 (Ref.)    | − 2.32 (− 7.34 to 2.70) | 5.60 (0.25 to 10.95)  | 0.021   |
| **Model 2**              | 0 (Ref.)    | − 2.59 (− 7.47 to 2.30) | 3.18 (− 2.07 to 8.43) | 0.160   |
| **Model 3**              | 0 (Ref.)    | − 2.84 (− 7.74 to 2.06) | 3.24 (− 2.09 to 8.58) | 0.158   |
| **Whole-fat dairy** g/day, median [IQR] | 14 (0, 22) | 46 (38, 55) | 129 (87, 205) |
| **Crude model**          | 0 (Ref.)    | 17.48 (10.98 to 23.97) | 8.32 (1.97 to 14.68)  | 0.197   |
| **Model 1**              | 0 (Ref.)    | 5.96 (0.74 to 11.17)  | 0.27 (− 4.78 to 5.33) | 0.589   |
| **Model 2**              | 0 (Ref.)    | 6.14 (1.01 to 11.27)  | 1.42 (− 3.51 to 6.36) | 0.928   |
| **Model 3**              | 0 (Ref.)    | 4.88 (− 0.32 to 10.08) | 1.03 (− 4.11 to 6.16) | 0.900   |
### PREDIMED-Plus: Dairy Consumption and Cognitive Function

| Product                  | Total milk g/day, median [IQR]| Skimmed milk g/day, median [IQR]| Semi-skimmed milk g/day, median [IQR]| Whole-fat milk g/day, median [IQR]| Total yogurt g/day, median [IQR] |
|-------------------------|--------------------------------|---------------------------------|-------------------------------------|----------------------------------|----------------------------------|
|                         | 50 (11, 111)                   | 196 (182, 208)                  | 471 (241, 503)                      |                                  |                                  |
| Crude model             | 0 (Ref.)                       | 12.36 (6.14 to 18.58)           | 27.82 (21.34 to 34.31)              | <0.001                           |                                  |
| Model 1                 | 0 (Ref.)                       | 1.27 (−3.76 to 6.30)            | 6.03 (0.83 to 11.23)                | 0.019                            |                                  |
| Model 2                 | 0 (Ref.)                       | −0.28 (−5.19 to 4.62)           | 3.99 (−1.11 to 9.10)                | 0.095                            |                                  |
| Model 3                 | 0 (Ref.)                       | 0.17 (−4.77 to 5.11)            | 3.81 (−1.46 to 9.08)                | 0.134                            |                                  |
|                         |                                |                                |                                     |                                  |                                  |
| Whole-fat milk          | 0 (0, 0)                       | 3 (1, 5)                       | 17 (11, 96)                         | <0.001                           |                                  |
| Crude model             | 0 (Ref.)                       | 17.81 (11.45 to 24.18)          | 23.99 (17.62 to 30.36)              | <0.001                           |                                  |
| Model 1                 | 0 (Ref.)                       | 6.24 (1.12 to 11.37)            | 7.90 (2.78 to 13.01)                | 0.004                            |                                  |
| Model 2                 | 0 (Ref.)                       | 6.42 (1.37 to 11.47)            | 8.55 (3.51 to 13.58)                | 0.001                            |                                  |
| Model 3                 | 0 (Ref.)                       | 5.58 (0.25 to 10.91)            | 6.72 (1.31 to 12.14)                | 0.021                            |                                  |
| Semi-skimmed milk       | 0 (0, 0)                       | 16 (9, 25)                     | 206 (189, 473)                      |                                  |                                  |
| Crude model             | 0 (Ref.)                       | 10.88 (4.32 to 17.43)           | 9.87 (3.42 to 16.33)                | 0.063                            |                                  |
| Model 1                 | 0 (Ref.)                       | −1.78 (−7.03 to 3.46)           | −2.19 (−7.24 to 2.86)               | 0.524                            |                                  |
| Model 2                 | 0 (Ref.)                       | −1.16 (−6.34 to 4.02)           | −3.97 (−8.90 to 0.96)               | 0.115                            |                                  |
| Model 3                 | 0 (Ref.)                       | −4.35 (−9.91 to 1.20)           | −5.47 (−10.56 to −0.39)             | 0.106                            |                                  |
| Skimmed milk            | 0 (0, 0)                       | 2 (1, 3)                       | 201 (199, 498)                      |                                  |                                  |
| Crude model             | 0 (Ref.)                       | 16.35 (10.02 to 22.67)          | 18.99 (12.49 to 25.49)              | <0.001                           |                                  |
| Model 1                 | 0 (Ref.)                       | 3.43 (−1.67 to 8.53)            | 7.03 (1.78 to 12.28)                | 0.026                            |                                  |
| Model 2                 | 0 (Ref.)                       | 4.13 (−0.92 to 9.17)            | 7.75 (2.62 to 12.89)                | 0.014                            |                                  |
| Model 3                 | 0 (Ref.)                       | 1.60 (−3.85 to 7.05)            | 6.22 (1.01 to 11.43)                | 0.020                            |                                  |
| Total yogurt            | 6 (0, 13)                      | 55 (51, 61)                     | 127 (122, 135)                      |                                  |                                  |
| Crude model             | 0 (Ref.)                       | 6.44 (−0.00 to 12.89)           | 11.01 (4.53 to 17.50)               | 0.001                            |                                  |
| Model 1                 | 0 (Ref.)                       | 3.60 (−1.48 to 8.67)            | 2.43 (−2.70 to 7.57)                | 0.420                            |                                  |
| Model 2                 | 0 (Ref.)                       | 2.36 (−2.59 to 7.30)            | 1.75 (−3.25 to 6.76)                | 0.546                            |                                  |
| Model 3                 | 0 (Ref.)                       | 2.41 (−2.55 to 7.38)            | 1.72 (−3.31 to 6.76)                | 0.559                            |                                  |
### Total cheese g/day, median [IQR]

| Model   | Crude model | Model 1 | Model 2 | Model 3 |
|---------|-------------|---------|---------|---------|
| 0 (Ref.) | 0 (Ref.)    | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| 10 (5, 14) | 9.10 (2.67 to 15.53) | 1.64 (−3.38 to 6.67) | 2.10 (−2.78 to 6.97) | 1.98 (−2.92 to 6.88) |

**Total fermented dairy products g/day, median [IQR]**

| Model   | Crude model | Model 1 | Model 2 | Model 3 |
|---------|-------------|---------|---------|---------|
| 0 (Ref.) | 0 (Ref.)    | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| 31 (18, 46) | 8.31 (1.90 to 14.72) | 1.03 (−4.01 to 6.06) | 0.63 (−4.29 to 5.54) | 0.41 (−4.55 to 5.36) |

### Total dairy g/day, median [IQR]a

| DST-f (n=4,862) | n=1,621 | n=1,621 | n=1,620 |
|-----------------|---------|---------|---------|
| 152 (88, 198)   | 290 (263, 321) | 540 (417, 610) |
| Crude model     | 0 (Ref.) | −3.75 (−10.81 to 3.31) | −8.56 (−15.53 to −1.60) |
| Model 1         | 0 (Ref.) | 4.59 (−0.95 to 10.13) | 1.64 (−3.98 to 7.26) |
| Model 2         | 0 (Ref.) | 5.36 (−0.15 to 10.88) | 2.84 (−2.82 to 8.49) |
| Model 3         | 0 (Ref.) | 5.26 (−0.28 to 10.80) | 1.87 (−3.92 to 7.66) |

### Low-fat dairy g/day, median [IQR]b

| DST-f (n=4,862) | n=1,621 | n=1,621 | n=1,620 |
|-----------------|---------|---------|---------|
| 41 (2, 107)     | 214 (198, 245) | 495 (335, 549) |
| Crude model     | 0 (Ref.) | −5.18 (−12.21 to 1.84) | −6.53 (−13.44 to 0.39) |
| Model 1         | 0 (Ref.) | 0.86 (−4.66 to 6.38) | 1.38 (−4.16 to 6.92) |
| Model 2         | 0 (Ref.) | 1.06 (−4.40 to 6.53) | 2.74 (−2.80 to 8.27) |
| Model 3         | 0 (Ref.) | 1.17 (−4.32 to 6.67) | 2.21 (−3.39 to 7.82) |

### Whole-fat dairy g/day, median [IQR]c

| DST-f (n=4,862) | n=1,621 | n=1,621 | n=1,620 |
|-----------------|---------|---------|---------|
| 14 (1, 22)      | 45 (37, 54) | 128 (86, 205) |
| Crude model     | 0 (Ref.) | −7.70 (−14.84 to −0.56) | −6.27 (−13.19 to 0.64) |
| Model 1         | 0 (Ref.) | 0.96 (−4.64 to 6.56) | 1.43 (−3.98 to 6.83) |
| Model 2         | 0 (Ref.) | 0.89 (−4.72 to 6.50) | 1.08 (−4.31 to 6.47) |
### Model 3

|                  | Crude model | Model 1 | Model 2 | Model 3 |
|------------------|-------------|---------|---------|---------|
| **Total milk** g/day, median [IQR] | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Total milk g/day, median [IQR]

|                  | 48 (9, 107) | 195 (180, 207) | 468 (238, 501) |
|------------------|-------------|----------------|----------------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Skimmed milk g/day, median [IQR]

|                  | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
|------------------|---------|---------|---------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Whole-fat milk g/day, median [IQR]

|                  | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
|------------------|---------|---------|---------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Semi-skimmed milk g/day, median [IQR]

|                  | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
|------------------|---------|---------|---------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Skimmed milk g/day, median [IQR]

|                  | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
|------------------|---------|---------|---------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 3 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |

### Total yogurt g/day, median [IQR]

|                  | 6 (0, 13) | 55 (51, 60) | 127 (121, 135) |
|------------------|----------|------------|---------------|
| Crude model | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 1 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
| Model 2 | 0 (Ref.) | 0 (Ref.) | 0 (Ref.) |
## PREDIMED-Plus: Dairy Consumption and Cognitive Function

|                           | Crude model | Model 1 | Model 2 | Model 3 |
|---------------------------|-------------|---------|---------|---------|
| **Total cheese** g/day, median [IQR] | 0 (Ref.) | 4.55 (– 0.92 to 10.01) | 4.85 (– 0.78 to 10.48) | 0.113 |
| **Total fermented dairy products** g/day, median [IQR] | 0 (Ref.) | – 3.82 (– 10.90 to 3.25) | – 4.86 (– 11.79 to 2.06) | 0.181 |
| **DST-b (n=4,861)** | n=1,621 | n=1,620 | n=1,620 | n=1,620 |
| **Total dairy** g/day, median [IQR] | 152 (88, 198) | 290 (263, 321) | 540 (417, 610) | <0.001 |
| **Low-fat dairy** g/day, median [IQR] | 41 (2, 107) | 214 (198, 245) | 495 (332, 549) | <0.001 |
| **Whole-fat dairy** g/day, median [IQR] | 14 (1, 22) | 45 (37, 54) | 128 (86, 205) | <0.001 |
|                          | Model 2 | Model 3 | Total milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Whole-fat milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Semi-skimmed milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Skimmed milk g/day, median [IQR] | Crude model | Model 1 | Model 2 | Model 3 | Total yogurt g/day, median [IQR] | Crude model | Model 1 |
|--------------------------|---------|---------|-------------------------------|-------------|---------|---------|---------|--------------------------------|-------------|---------|---------|---------|--------------------------------|-------------|---------|---------|---------|-------------------------------|-------------|---------|
|                          | 0 (Ref.)| 0 (Ref.)| 48 (9, 107)                   | 0 (Ref.)    | 0 (Ref.)| 0 (Ref.)| 0 (Ref.)| 0 (Ref.)                          | 0 (Ref.)    | 0 (Ref.)| 0 (Ref.)| 0 (Ref.)| 0 (Ref.)                          | 0 (Ref.)    | 0 (Ref.)| 0 (Ref.)| 0 (Ref.)| 0 (Ref.)                          | 0 (Ref.)    | 0 (Ref.)| 0 (Ref.)| 0 (Ref.)|                          |
| Crude model              | – 1.10  | – 0.01  | – 16.78 (-23.65 to -9.91)     | – 16.78     | – 6.66  | – 5.10  | – 5.45  | – 8.73 (-15.77 to -1.68)          | – 8.73      | – 2.32  | – 2.26  | – 1.58  | – 13.92 (-20.88 to -6.95)         | – 13.92     | – 2.22  | – 3.38  | – 1.41  | – 18.19 (-25.06 to -11.31)        | – 18.19     | – 6.24  | – 6.99  | – 5.40  | – 10.47 (-10.47 to -0.43)         | – 10.47     | – 5.02  | – 6.66  | – 5.02  |                          |
| Model 1                  | 0 (Ref.)| 0 (Ref.)| – 1.54 (-6.91 to 3.84)        | – 19.65     | – 5.28  | – 3.97  | – 2.97  | – 13.05 (-19.97 to -6.13)         | – 13.05     | – 4.71  | – 5.03  | – 3.52  | – 14.93 (-21.95 to -7.91)         | – 14.93     | – 10.09 | – 4.63  | – 3.12  | – 25.06 (-23.39 to -9.22)         | – 25.06     | – 11.01 | – 4.63  | – 8.53  | – 10.47 (-10.47 to -0.43)         | – 10.47     | – 9.30  | – 8.53  | – 10.47 |                          |
| Model 2                  | 0 (Ref.)| 0 (Ref.)| – 0.18 (-6.76 to 4.25)        | – 12.66     | – 3.71  | – 3.61  | – 3.50  | – 9.22 (-6.66 to 11.29)           | – 9.22      | – 10.21 | – 4.62  | – 8.53  | – 21.95 (-23.39 to -9.22)         | – 21.95     | – 10.09 | – 4.63  | – 8.53  | – 12.66 (-12.33 to -1.87)         | – 12.66     | – 9.30  | – 8.53  | – 10.47 | – 12.66 (-12.33 to -1.87)         | – 12.66     | – 9.30  | – 8.53  | – 10.47 |                          |
| Model 3                  | 0 (Ref.)| 0 (Ref.)| – 0.17 (-6.76 to 4.25)        | – 12.66     | – 3.71  | – 3.61  | – 3.50  | – 9.22 (-6.66 to 11.29)           | – 9.22      | – 10.21 | – 4.62  | – 8.53  | – 21.95 (-23.39 to -9.22)         | – 21.95     | – 10.09 | – 4.63  | – 8.53  | – 12.66 (-12.33 to -1.87)         | – 12.66     | – 9.30  | – 8.53  | – 10.47 | – 12.66 (-12.33 to -1.87)         | – 12.66     | – 9.30  | – 8.53  | – 10.47 |                          |
|                          |         |         | 195 (180, 207)                |             |         |         |         | 488 (238, 501)                    |             |         |         |         | 205 (189, 471)                    |             |         |         |         | 55 (50, 60)                     |             |         |         |         | 127 (121, 135)                  |             |         |         |         |                          |
|                          |         |         |                               |             |         |         |         |                               |             |         |         |         |                               |             |         |         |         |                               |             |         |         |         |                               |             |         |         |         |                          |
| Model          | β-coefficient (95% CI) | p-value |
|---------------|------------------------|---------|
| Crude model   |                        |         |
| Model 1       |                        |         |
| Model 2       |                        |         |
| Model 3       |                        |         |

**Total cheese g/day, median [IQR]**

| Model          | β-coefficient (95% CI) | p-value |
|---------------|------------------------|---------|
| Crude model   |                        |         |
| Model 1       |                        |         |
| Model 2       |                        |         |
| Model 3       |                        |         |

**Total fermented dairy products g/day, median [IQR]**

| Model          | β-coefficient (95% CI) | p-value |
|---------------|------------------------|---------|
| Crude model   |                        |         |
| Model 1       |                        |         |
| Model 2       |                        |         |
| Model 3       |                        |         |

Multivariable linear regression was used to assess the longitudinal association to compare 2-year changes in cognitive function across tertiles of dairy product intake.

**Multivariable model 1:** adjusted for respective cognitive test score at baseline, age (years), sex, intervention PREDIMED-Plus randomized group, and participating center (<100, 100 to <200, 200 to <300, ≥300 participants).

**Multivariable model 2:** additionally adjusted for body mass index (kg/m²), educational level (primary, secondary or college), civil status (single, divorced or separated, married, widower), physical activity (METs/min/day), smoking habit (current, former, or never), alcohol consumption in g/day (and adding the quadratic term), depressive symptomatology (yes/no), diabetes prevalence (yes/no), hypertension (yes/no), and hypercholesterolemia (yes/no).

**Multivariable model 3:** additionally adjusted for dietary factors (consumption of vegetables, fruits, legumes, cereals, nuts, oils and fats, biscuits, meat, fish [g/day], coffee, and tea [mL/day]). β-coefficients were estimated using linear regression models with robust standard errors to account for intracluster correlations.

**Abbreviations:** CDT, Clock Drawing Test; CI, confidence interval; DST-b, Digit Span test backward; DST-f, Digit Span test forward; IQR, interquartile range; MMSE, Mini-Mental State Examination; T, tertile; TMT-A, Trail Making Test Part A; TMT-B, Trail Making Test Part B; VFT-a, Verbal Fluency tasks semantical; VFT-p, Verbal Fluency tasks phonological.

a β-coefficients and 95% CI are presented as 100x original data.

b For the cognitive function tests, a negative value indicates cognitive decline according to the associated test, except for TMT-A and TMT-B where a positive result indicate worse cognitive performance.
Dairy product consumption was adjusted for baseline total energy intake using the residual method.

Negative values of dairy consumption resulting from the energy adjustment were set to 0 for interpretability \(^{[1,2]}\).

Includes all dairy products: all types of milk, yogurt, and cheese.

Includes semi-skimmed/skimmed milk and skimmed yogurt.

Includes whole-fat milk, whole-fat yogurt, and all types of cheese.

Includes all types of milk: whole-fat, semi-skimmed, and skimmed milk.

Includes all types of yogurt: whole-fat and skimmed yogurt.

Includes all types of cheese: petit-suisse, ricotta, cottage cheese, cream cheese, semi-cured and cured cheese, fresh cheese.

Includes all types of yogurt and cheese.

Inverse neuropsychological assessment score.
**Supplementary Table 2.** Multivariable adjusted mean 2-year change (β-coefficients and 95% CIs) in cognitive performance (GCF z-score) according to tertiles of energy-adjusted total dairy and different subtypes of dairy product consumption in the PREDIMED-Plus cohort, stratified by sex.

| Dairy product consumption | T1 (lowest) | T2 | T3 (highest) | p trend |
|---------------------------|-------------|----|--------------|---------|
| **Total dairy g/day, median [IQR]** |
| Women (n=2,243) | 188 (114, 237) | 320 (295, 353) | 574 (513, 632) | |
| Crude model | 0 (Ref) | – 13.39 (~ 23.46 to – 3.32) | – 15.29 (~ 25.51 to – 5.06) | 0.009 |
| Model 1 | 0 (Ref) | – 1.11 (~ 6.96 to 4.74) | – 3.25 (~ 9.10 to 2.60) | 0.271 |
| Model 2 | 0 (Ref) | – 1.12 (~ 6.91 to 4.67) | – 3.38 (~ 9.16 to 2.40) | 0.246 |
| Model 3 | 0 (Ref) | – 0.49 (~ 6.25 to 5.26) | – 2.39 (~ 8.48 to 3.69) | 0.426 |
| Men (n=2,425) | 129 (70, 171) | 262 (236, 289) | 487 (367, 580) | |
| Crude model | 0 (Ref) | – 7.46 (~ 16.00 to 1.08) | – 10.67 (~ 19.39 to 1.96) | 0.023 |
| Model 1 | 0 (Ref) | – 3.75 (~ 8.67 to 1.17) | – 4.16 (~ 9.26 to 0.93) | 0.141 |
| Model 2 | 0 (Ref) | – 3.53 (~ 8.40 to 1.33) | – 4.03 (~ 9.18 to 1.12) | 0.156 |
| Model 3 | 0 (Ref) | – 3.01 (~ 7.89 to 1.87) | – 2.89 (~ 8.11 to 2.33) | 0.332 |
| **Low-fat dairy g/day, median [IQR]** |
| Women (n=2,243) | 88 (20, 160) | 251 (222, 285) | 514 (462, 571) | |
| Crude model | 0 (Ref) | – 8.53 (~ 18.54 to 1.47) | – 14.64 (~ 24.91 to 4.37) | 0.007 |
| Model 1 | 0 (Ref) | 1.90 (~ 3.82 to 7.63) | – 1.04 (~ 6.99 to 4.90) | 0.643 |
### Whole-fat dairy g/day, median [IQR]

**Women**

| Model   | Crude model | Model 1 | Model 2 | Model 3 |
|---------|-------------|---------|---------|---------|
|         | 0 (Ref.)    | -7.54 (-16.17 to 1.10) | -4.04 (-9.11 to 1.02) | 0.118   |
|         | 0 (Ref.)    | -2.23 (-7.25 to 2.80)  | -3.81 (-8.90 to 1.28)  | 0.140   |
|         | 0 (Ref.)    | -2.02 (-7.01 to 2.97)  | -2.44 (-7.56 to 2.68)  | 0.346   |
| **n=2,243** | (n=748)     | (n=748)      | (n=747)       |         |

**Men**

| Model   | Crude model | Model 1 | Model 2 | Model 3 |
|---------|-------------|---------|---------|---------|
|         | 0 (Ref.)    | 0.41 (-8.23 to 9.04) | -1.05 (-9.84 to 7.74) | 0.770   |
|         | 0 (Ref.)    | -1.87 (-6.91 to 3.18) | -0.70 (-5.80 to 4.39) | 0.941   |
|         | 0 (Ref.)    | -1.03 (-5.95 to 3.88) | -0.42 (-5.47 to 4.64) | 0.958   |
|         | 0 (Ref.)    | -0.21 (-5.26 to 4.84) | -0.81 (-6.07 to 4.44) | 0.750   |
| **n=2,425** | (n=809)     | (n=808)       | (n=808)       |         |

### Total milk g/day, median [IQR]

**Women**

|          | Woman | Men         | Total |
|----------|-------|-------------|-------|
|          | 5 (28) | 48 (102, 226) | 106 (79, 173) |
| **n=2,243** | (n=748) | (n=747)       | (n=747)       |         |
|          | 6 (25) | 210 (196, 220) | 486 (261, 511) |
|              | Women (n=2,243) | Men (n=2,425) |
|--------------|-----------------|---------------|
|              | (n=748)         | (n=809)       |
| Crude model  | 0 (Ref.) - 12.66 (−22.49 to −2.82) | 0 (Ref.) - 12.59 (−21.23 to −3.96) |
| Model 1      | 2.50 (−3.35 to 8.36) | 4.68 (−9.69 to 0.34) |
| Model 2      | 3.91 (−1.91 to 9.73) | 4.98 (−9.94 to −0.02) |
| Model 3      | 3.48 (−2.33 to 9.28) | 5.00 (−9.94 to −0.05) |

| Whole-fat milk g/day, median [IQR] |
|-----------------------------------|
| Women (n=2,243) | (n=748) | (n=748) | (n=747) |
| Crude model | 0 (Ref.) - 6.51 (−16.74 to 3.71) | 0 (Ref.) - 3.07 (−8.94 to 2.79) | 0 (Ref.) - 3.18 (−9.45 to 3.09) |
| Model 1 | 3.07 (−8.94 to 2.79) | 7.37 (−13.14 to −1.60) |
| Model 2 | 3.18 (−9.45 to 3.09) | 7.88 (−14.51 to −1.25) |
| Model 3 | 1.47 (−7.90 to 4.95) | 4.69 (−11.87 to 2.49) |

| Men (n=2,425) | (n=809) | (n=808) | (n=808) |
| Crude model | 0 (Ref.) - 5.65 (−14.26 to 2.96) | 0 (Ref.) - 5.53 (−10.48 to −0.58) |
| Model 1 | - 9.67 (−18.26 to −1.08) | - 6.36 (−11.31 to −1.40) |
|                          | Model 2        | Model 3        |         |
|--------------------------|----------------|----------------|---------|
|                          | 0 (Ref.)       | 0 (Ref.)       | 0.036   |
|                          | – 2.60 (– 7.59 to 2.38) | – 5.59 (– 10.45 to – 0.73) |         |
| **Semi-skimmed milk** g/day, median [IQR] |               |               | 0.018   |
| **Women**                | 0 (0, 3)       | 19 (13, 27)   | 212 (197, 486) |
| (n=2,243)                | (n=748)        | (n=748)       | (n=747) |
| Crude model              | 0 (Ref.)       | – 14.42 (– 24.84 to – 3.99) | – 16.76 (– 26.83 to – 6.69) |
| Model 1                  | 0 (Ref.)       | – 6.20 (– 12.11 to – 0.29) | – 2.43 (– 8.35 to 3.49) |
| Model 2                  | 0 (Ref.)       | – 6.49 (– 12.73 to – 0.25) | – 1.42 (– 7.24 to 4.51) |
| Model 3                  | 0 (Ref.)       | – 3.86 (– 10.70 to 2.99)  | 0.43 (– 5.68 to 6.53) |
| **Men**                  | 0 (0, 0)       | 12 (5, 24)    | 200 (183, 221) |
| (n=2,425)                | (n=809)        | (n=808)       | (n=808) |
| Crude model              | 0 (Ref.)       | – 9.10 (– 17.81 to – 0.39) | – 9.44 (– 18.12 to – 0.76) |
| Model 1                  | 0 (Ref.)       | – 4.04 (– 9.06 to 0.98)  | – 2.75 (– 7.63 to 2.12) |
| Model 2                  | 0 (Ref.)       | – 4.31 (– 9.27 to 0.65)  | – 1.90 (– 6.75 to 2.95) |
| Model 3                  | 0 (Ref.)       | – 2.29 (– 7.60 to 3.02)  | 0.52 (– 5.46 to 4.41) |
| **Skimmed milk** g/day, median [IQR] |               |               | 0.841   |
| **Women**                | 0 (0, 1)       | 5 (3, 58)     | 204 (201, 499) |
| (n=2,243)                | (n=748)        | (n=748)       | (n=747) |
| Crude model              | 0 (Ref.)       | – 11.23 (– 21.24 to – 1.23) | – 7.95 (– 18.54 to 2.64) |
| Model 1                  | 0 (Ref.)       | – 6.30 (– 12.10 to – 0.49) | 0.52 (– 5.43 to 6.47) |
| Model 2                  | 0 (Ref.)       | – 6.44 (– 12.56 to – 0.32) | – 0.05 (– 6.07 to 5.96) |
| Model 3                  | 0 (Ref.)       | – 3.44 (– 9.77 to 2.90)  | 1.01 (– 5.10 to 7.12) |
| **Men**                  | 0 (0, 0)       | 1 (0, 3)      | 199 (190, 204) |
### Crude model
- **Total yogurt** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 9 (3, 20) | 2 (0, 8) |

### Model 1
- **Total yogurt** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.58 (0.79 to 1.37) | 0.58 (0.81 to 1.37) |

### Model 2
- **Total yogurt** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.19 (0.30 to 0.38) | 0.19 (0.30 to 0.38) |

### Model 3
- **Total yogurt** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.12 (0.23 to 0.34) | 0.12 (0.23 to 0.34) |

### Total cheese g/day, median [IQR]  

| Women | Men |
|-------|-----|
| 12 (8, 16) | 2 (0, 8) |

### Crude model
- **Total cheese** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.58 (0.79 to 1.37) | 0.58 (0.81 to 1.37) |

### Model 1
- **Total cheese** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.19 (0.30 to 0.38) | 0.19 (0.30 to 0.38) |

### Model 2
- **Total cheese** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.12 (0.23 to 0.34) | 0.12 (0.23 to 0.34) |

### Model 3
- **Total cheese** g/day, median [IQR]  
  | Women | Men |
  |-------|-----|
  | 0.12 (0.23 to 0.34) | 0.12 (0.23 to 0.34) |

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**PREDIMED-Plus: Dairy Consumption and Cognitive Function**

| Model | Women (n=808) | Men (n=808) | Crude model | Model 1 | Model 2 | Model 3 |
|-------|---------------|-------------|-------------|---------|---------|---------|
|       | (n=2,425)     | (n=809)     | (n=808)     | (n=808) | (n=808) | (n=808) |
| Crude model | 0 (Ref.) | -11.17 (-19.90 to -2.43) | -4.33 (-12.91 to 4.25) | 0.784 |
| Model 1 | 0 (Ref.) | -6.87 (-11.89 to -1.86) | -5.98 (-10.93 to -1.04) | 0.228 |
| Model 2 | 0 (Ref.) | -7.65 (-12.61 to -2.70) | -7.17 (-12.03 to -2.31) | 0.113 |
| Model 3 | 0 (Ref.) | -5.56 (-10.94 to -0.18) | -5.88 (-10.85 to -0.92) | 0.154 |

**Total yogurt g/day, median [IQR]**

- **Women** (n=748)
  - Crude model: -3.75 (-13.96 to 6.45)
  - Model 1: 0.19 (-5.61 to 5.99)
  - Model 2: 0.78 (-5.07 to 6.63)
  - Model 3: -1.22 (-6.10 to 3.66)

- **Men** (n=808)
  - Crude model: -1.48 (-11.73 to 8.77)
  - Model 1: 0.19 (-5.61 to 5.99)
  - Model 2: 0.78 (-5.07 to 6.63)
  - Model 3: -1.22 (-6.10 to 3.66)

**Total cheese g/day, median [IQR]**

- **Women** (n=748)
  - Crude model: -3.68 (-14.23 to 6.86)
  - Model 1: -0.72 (-6.76 to 5.32)

- **Men** (n=808)
  - Crude model: 6.10 (-3.92 to 16.12)
  - Model 1: 3.63 (-2.12 to 9.39)
| Model    | Women (n=2,243) | Men (n=2,425) |
|----------|-----------------|----------------|
| Crude model | 0 (Ref.) 42 (25, 59) | 25 (13, 36) |
| Model 1  | 0 (Ref.) 0.62 (– 4.35 to 5.60) | 0 (Ref.) 2.96 (– 5.60 to 11.53) |
| Model 2  | 0 (Ref.) 0.62 (– 4.35 to 5.60) | 0 (Ref.) 2.96 (– 5.60 to 11.53) |
| Model 3  | 0 (Ref.) 1.01 (– 3.86 to 5.89) | 0 (Ref.) 2.91 (– 2.16 to 7.99) |

| Model 2  | 0 (Ref.) – 1.10 (– 7.09 to 4.90) | 1.84 (~ 3.90 to 7.58) |
| Model 3  | 0 (Ref.) – 0.41 (– 6.41 to 5.60) | 1.95 (~ 3.92 to 7.83) |

| Men (n=2,425) | 24 (20, 28) | 46 (40, 58) |

| Crude model | 0 (Ref.) 4.17 (~ 4.62 to 12.96) | 7.10 (~ 1.63 to 15.84) |
| Model 1  | 0 (Ref.) 0.35 (~ 4.78 to 5.49) | 1.84 (~ 3.28 to 6.96) |
| Model 2  | 0 (Ref.) 0.59 (~ 4.43 to 5.62) | 1.37 (~ 3.62 to 6.36) |
| Model 3  | 0 (Ref.) 0.88 (~ 4.13 to 5.90) | 1.28 (~ 3.78 to 6.34) |

**Total fermented dairy products** g/day, median (IQR)

| Women (n=748) | 99 (85, 125) | 169 (153, 238) |
| Men (n=809) | 76 (64, 90) | 153 (136, 190) |

Crude model 0 (Ref.) 2.96 (~ 5.60 to 11.53) – 1.46 (~ 10.21 to 7.29) 0.664
Model 1 0 (Ref.) 0.62 (~ 4.35 to 5.60) 3.22 (~ 1.87 to 8.32) 0.200
Model 2 0 (Ref.) 0.68 (~ 4.19 to 5.55) 2.32 (~ 2.75 to 7.38) 0.361
Model 3 0 (Ref.) 1.01 (~ 3.86 to 5.89) 2.91 (~ 2.16 to 7.99) 0.255

*Multivariable linear regression was used to assess longitudinal association to compare the 2-year changes in cognitive function across tertiles of dairy product intake.
Multivariable model 1: adjusted for baseline global cognitive function z-score, age (years), sex, intervention PREDIMED-Plus randomized group, and participating center (<100, 100 to <200, 200 to <300, ≥300 participants).

Multivariable model 2: additionally adjusted for body mass index (kg/m²), educational level (primary, secondary or college), civil status (single, divorced or separated, married, widower), physical activity (METs/min/day), smoking habit (current, former or never), alcohol consumption in g/day (and adding the quadratic term), depressive symptomatology (yes/no), diabetes prevalence (yes/no), hypertension (yes/no), and hypercholesterolemia (yes/no).

Multivariable model 3: additionally adjusted for dietary factors (consumption of vegetables, fruits, legumes, cereals, nuts, oils and fats, biscuits, meat, fish [g/day], coffee, and tea [mL/day]). β-coefficients were estimated using linear regression models with robust standard errors to account for intracluster correlations.

Abbreviations: CI, confidence interval; GCF, global cognitive function; IQR, interquartile range; T, tertile.

\[ \beta - \text{coefficients and 95\% CI are presented as 100x original data.} \]

\[ \text{b GCF was calculated using the formula GCF} = (Z_{\text{MMSE}} + Z_{\text{CDT}} + Z_{\text{VFT-a}} + Z_{\text{VFT-p}} + (-Z_{\text{TMT-A}}) + (-Z_{\text{TMT-B}}) + Z_{\text{DST-f}} + Z_{\text{DST-b}}) / 8. \]

\[ \text{c Dairy product consumption was adjusted for baseline total energy intake using the residual method.} \]

\[ \text{d Negative values of dairy consumption resulting from the energy adjustment were set to 0 for interpretability}^{[1,2]} \]

\[ \text{e Includes all dairy products: all types of milk, yogurt, and cheese.} \]

\[ \text{i Includes semi-skimmed/skimmed milk and skimmed yogurt.} \]

\[ \text{g Includes whole-fat milk, whole-fat yogurt, and all types of cheese.} \]

\[ \text{h Includes all types of milk: whole-fat milk, semi-skimmed, and skimmed milk.} \]

\[ \text{i Includes all types of yogurt: whole-fat and skimmed yogurt.} \]

\[ \text{j Includes all types of cheese: petit-suisse, ricotta, cottage cheese, cream cheese, semi-cured and cured cheese, fresh cheese.} \]

\[ \text{k Includes all types of yogurt and cheese.} \]

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