**Supplementary Material**

# The relationship between dietary intakes and plasma concentrations of polyunsaturated fatty acids in school-aged children from the ALSPAC cohort.

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**Supplementary Table 1.** Daily dietary intakes of PUFAs by sex, estimated from a FFQ in 7-year old children from ALSPAC.



**Supplementary Table 2.** Plasma fatty acids proportions by sex in 7-year old children

 from ALSPAC (n=4,380).

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|  |   |   |   |   |
| Plasma proportion as % of total fatty acids | Female |   | Male | P-value Difference between sexes1 |
| Median (IQR) |   | Median (IQR) |
| Saturated fatty acids | 29.6 (27.3-31.4) |   | 29.7 (27.5-31.5) | 0.022 |
| Monounsaturated fatty acids | 26.9 (25.1-29.0) |   | 26.4 (24.5-28.5) | <0.001 |
| n-6 Polyunsaturated fatty acids | 39.6 (37.2-42.2) |   | 40.1 (37.4-42.5) | 0.011 |
| 18:2 n-6 (LA)  | 30.6 (28.6-32.7) |   | 30.7 (28.6-32.7) | 0.859 |
| 20:4 n-6 (AA) | 6.3 (5.5-7.2) |   | 6.4 (5.5-7.4) | <0.001 |
| n-3 Polyunsaturated fatty acids | 3.8 (3.4-4.3) |   | 3.8 (3.3-4.3) | 0.350 |
| 18:3 n-3 (ALA) | 0.7 (0.5-0.8) |   | 0.6 (0.5-0.8) | 0.007 |
| 22:6 n-3 (DHA) | 1.8 (1.6-2.2) |   | 1.8 (1.5-2.2) | 0.006 |
| 20:5 n-3 (EPA) | 0.6 (0.5-0.7) |   | 0.6 (0.5-0.8) | 0.167 |
| Abbreviations; SD:Standard Deviation. IQR: Inter Quartile Range (25th percentile-75th percentile). n-6: omega-6 series. n-3: omega-3 series. LA: Linolenic acid. AA: Arachidonic acid. ALA: Alpha-linolenic acid. DHA: Docosahexaenoic acid. EPA: Eicosapentaenoic acid. 1Wilcoxon Man-Whitney test |

**Supplementary Table 3**. Daily intake and percentage contribution of total n-6 and total n-3 PUFA intakes by food group and by sex, estimated from a parental-completed food frequency questionnaire when the child was aged 7 years (n=8,242).



**Supplementary Table 4.** Contribution of different types of fish to DHA and EPA intake by sex, estimated from a parental-completed food frequency questionnaire when the child was aged 7 years (n=8,242).



**Supplementary Table 5a.** Spearman's Correlation Coefficients (r) between plasma concentrations and energy adjusted dietary intakes of n-3 and n-6 PUFAs in females (n=2,114).



**Supplementary Table 5b** Spearman's Correlation Coefficients (r) between plasma concentrations and energy adjusted dietary intakes of n-3 and n-6 PUFAs in males (n=2,266).

