**Online Supplementary Material:**

**Re-analyses after excluding all 96 cases of ASD**

**Online Table 2: Neurocognitive performance in children with neurodevelopmental disorders (excluding all 96 cases of ASD) and the rest of the ALSPAC cohort**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cognitive ability and average age of testing | Neurodevelopmental disorder | No neurodevelopmental disorder |  |  |
| n | Mean (SD) | n | Mean (SD) | Mean difference (95% CI) | Adjusted mean difference (95% CI) |
| *Age 9 years* |  |  |  |  |  |  |
| Total IQ | 292 | 98.83 (16.85) | 5920 | 105.35 (16.22) | 6.51 (4.60- 8.42) | 6.65 (4.67- 8.64) |
| Verbal IQ | 296 | 102.00 (17.03) | 5942 | 108.23 (16.55) | 6.23 (4.29- 8.16) | 6.54 (4.53- 8.55) |
| Performance IQ | 295 | 94.91 (18.42) | 5935 | 100.65 (16.80) | 5.73 (3.75- 7.70) | 5.49 (3.41- 7.57) |
| Short-term memory | 287 | 8.88 (2.86) | 5805 | 10.51 (3.06) | 1.63 (1.27- 1.99) | 1.55 (1.16- 1.93) |
| *Age 11 years* |  |  |  |  |  |  |
| Working memory | 268 | 3.11 (0.79) | 5685 | 3.44 (0.84) | 0.33 (0.23- 0.44) | 0.34 (0.22- 0.45) |

Note: Adjusted analyses included age at the time of testing, gender, ethnicity, and father’s social class as potential confounders

**Distribution of IQ scores in children with and without neurodevelopmental disorders:**

There was a linear association between IQ and neurodevelopmental disorders, consistent with the left-shift of entire distribution of IQ scores in ND (p<0.0001). The quadratic term (square of IQ) within the logistic regression model of IQ and ND was not significant (p= 0.36).

**Neurodevelopmental disorders and risk of psychotic experiences:**

**Online Table 3: Risk of psychotic experiences (PEs) at 13 years among individuals with neurodevelopmental disorders (ND) at age 9 years (excluding all 96 cases of ASD)**

|  |  |  |
| --- | --- | --- |
| **ND and adjustment for confounding** | **N** | **Odds ratio (95% CI)**  |
|  |  | **Any PEs** | **Definite PEs** |
| Unadjusted | 5782 | 1.53 (1.11- 2.11) | 1.58 (1.00- 2.11) |
| Adjusted for age and gender | 5782 | 1.53 (1.11- 2.12) | 1.61 (1.01- 2.55) |
| Additional adjustments for ethnicity, social class, and maternal education | 4976 | 1.49 (1.04- 2.12) | 1.66 (1.01- 2.76) |

**Effects of neurocognitive deficits on the association between ND and PEs:**

In bivariate analysis, there was a significant association between neurodevelopmental disorders (ND) at age 9 years and risk of psychotic experiences (PEs) at age 13 years (effect estimate 0.427, SE 0.163, p= 0.009). Separate regressions showed significant associations between ND and IQ, IQ and PEs after controlling for ND. Finally, ND-PEs, ND-IQ, IQ-PEs, all three regression lines were fitted simultaneously in a single model using MPlus. In this step, the association between ND and PEs was attenuated but still remained significant (estimate 0.394, SE 0.175, p= 0.02). The magnitude of attenuation was 7% (95% CI 2- 12%), suggesting partial mediation by IQ. However, there was no evidence of any mediating effect of working memory scores on the association between ND and PEs.