**Table, Supplemental Digital Content 4.** Sensitivity analysis showing association of anesthetic exposure before the age of 3 years with group-administered ability (OLSAT) and achievement (Stanford) test scores, excluding children with any cardiovascular or neurological surgery**.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Unadjusted | | Covariate Adjusted 1\* | | Covariate Adjusted 2\*\* | |
|  | Effect estimate (95% CI) | p value | Effect estimate (95% CI) | p value | Effect estimate (95% CI) | p value |
| OLSAT Total Battery |  | 0.111 |  | 0.188 |  | 0.277 |
| 0 (n=351) | Reference |  | Reference |  | Reference |  |
| 1 (n=342) | -0.058 (-0.206 to 0.091) | 0.444 | -0.042 (-0.180 to 0.095) | 0.546 | -0.016 (-0.157 to 0.125) | 0.820 |
| ≥2 (n=84) | **-0.246 (-0.471 to -0.020)** | **0.033** | -0.200 (-0.411 to 0.012) | 0.064 | -0.183 (-0.407 to 0.041) | 0.109 |
| Reading |  | 0.006 |  | 0.008 |  | 0.005 |
| 0 (n=370) | Reference |  | Reference |  | Reference |  |
| 1 (n=355) | **-0.193 (-0.337 to -0.050)** | **0.008** | **-0.169 (-0.297 to -0.041)** | **0.010** | **-0.168 (-0.299 to -0.036)** | **0.013** |
| ≥2 (n=89) | **-0.313 (-0.546 to -0.080)** | **0.008** | **-0.265 (-0.482 to -0.048)** | **0.017** | **-0.320 (-0.550 to -0.090)** | **0.007** |
| Mathematics |  | 0.043 |  | 0.065 |  | 0.048 |
| 0 (n=370) | Reference |  | Reference |  | Reference |  |
| 1 (n=355) | -0.081 (-0.220 to 0.058) | 0.252 | -0.061 (-0.186 to 0.065) | 0.342 | -0.058 (-0.185 to 0.069) | 0.372 |
| ≥2 (n=89) | **-0.293 (-0.524 to -0.063)** | **0.013** | **-0.258 (-0.475 to -0.041)** | **0.020** | **-0.280 (-0.501 to -0.059)** | **0.013** |
| Language |  | 0.019 |  | 0.027 |  | 0.031 |
| 0 (n=370) | Reference |  | Reference |  | Reference |  |
| 1 (n=355) | **-0.169 (-0.321 to -0.018)** | **0.029** | **-0.150 (-0.287 to -0.014)** | **0.031** | **-0.142 (-0.282 to -0.002)** | **0.047** |
| ≥2 (n=89) | **-0.298 (-0.541 to -0.054)** | **0.017** | **-0.253 (-0.480 to -0.027)** | **0.029** | **-0.272 (-0.509 to -0.036)** | **0.024** |
| Spelling |  | 0.072 |  | 0.105 |  | 0.196 |
| 0 (n=370) | Reference |  | Reference |  | Reference |  |
| 1 (n=355) | -0.135 (-0.276 to 0.007) | 0.061 | -0.118 (-0.249 to 0.013) | 0.076 | -0.095 (-0.229 to 0.039) | 0.165 |
| ≥2 (n=89) | -0.215 (-0.440 to 0.010) | 0.061 | -0.179 (-0.389 to 0.032) | 0.097 | -0.169 (-0.390 to 0.052) | 0.133 |

Statistically significant (p<0.05) differences in effect estimates for z scores are indicated in **bold**

\* Adjusting for sex, birth weight, gestational age, and mother’s education.

\*\* Adjusting for sex, birth weight, gestational age, mother’s education, and socioeconomic status.

This analysis excludes children with any cardiovascular (17 procedures) or neurologic (6 procedures). In all, 16 unique patients (6 singly-exposed and 10 multiply-exposed) were excluded. Compared with the analysis including all children, the associations between multiple exposures and the OSAT Total Battery and the Spelling subtest of the Stanford do not reach statistical significance in the two adjusted analyses, whereas the association between single exposures and the Language subtest of the Stanford in covariate adjusted model 2 is now statistically significant.