**Appendix A: Association of study participant characteristics with NIH Toolbox**® **scores, by language**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | DCCS | Flanker | List sorting | Pattern comparison | Picture sequence memory |
| Covariate | Luo | Swahili | Luo | Swahili | Luo | Swahili | Luo | Swahili | Luo | Swahili |
| Mother's age | 0.02 (0-0.05), P=0.1 | 0.03 (0-0.07), P=0.07 | 0 (0-0), P=0.27 | 0 (0-0.01), P=0.12 | 0 (-0.05-0.04), P=0.86 | 0.02 (-0.03-0.07), P=0.5 | **0.1 (-0.01-0.2), P=0.07** | **0.21 (0.07-0.36), P=0** | 0.03 (-0.02-0.08), P=0.26 | 0.04 (-0.05-0.13), P=0.4 |
| Improved water | -0.17 (-0.72-0.39), P=0.56 | **0.77 (0.16-1.38), P=0.01** | 0 (-0.06-0.05), P=0.96 | 0.03 (-0.03-0.1), P=0.32 | **-1.18 (-2.16--0.2), P=0.02** | **1.11 (0.26-1.97), P=0.01** | -0.43 (-2.62-1.76), P=0.7 | 1.76 (-0.63-4.15), P=0.15 | -0.22 (-1.25-0.82), P=0.68 | 0.65 (-0.89-2.2), P=0.41 |
| Improved sanitation | 0.42 (-0.14-0.97), P=0.14 | -0.9 (-1.52--0.29), P<0.01 | -0.02 (-0.08-0.03), P=0.38 | -0.07 (-0.14--0.01), P=0.03 | -0.31 (-1.3-0.68), P=0.54 | -0.3 (-1.19-0.58), P=0.5 | 0.67 (-1.52-2.86), P=0.55 | -1.66 (-4.08-0.76), P=0.18 | 0.7 (-0.33-1.73), P=0.18 | 0.14 (-1.43-1.71), P=0.86 |
| Child’s age | **0.44 (0.33-0.54), P=0** | **0.53 (0.43-0.64), P<0.01** | **0.01 (0-0.02), P=0.02** | **0.03 (0.02-0.05), P=0** | **0.84 (0.66-1.02), P=0** | **0.54 (0.37-0.7), P<0.01** | **1.94 (1.55-2.34), P<0.01** | **2.04 (1.62-2.45), P<0.01** | **0.67 (0.47-0.87), P<0.01** | **1 (0.72-1.29), <0.01** |
| Male gender | -0.5 (-1.04-0.04), P=0.07 | 0.37 (-0.22-0.96), P=0.22 | -0.04 (-0.09-0.02), P=0.19 | **0.08 (0.01-0.14), P=0.02** | 0.44 (-0.53-1.4), P=0.38 | 0.44 (-0.39-1.27), P=0.3 | **-2.26 (-4.37--0.14), P=0.04** | **2.87 (0.59-5.15), P=0.01** | -0.44 (-1.44-0.57), P=0.39 | 1.12 (-0.37-2.6), P=0.14 |
| Educational attainment  |
| No formal education/some primary school | -0.62 (-1.26-0.02), P=0.06 | 0.31 (-0.4-1.02), P=0.39 | -0.04 (-0.1-0.03), P=0.26 | -0.04 (-0.12-0.04), P=0.33 | -0.04 (-1.18-1.1), P=0.94 | 0.23 (-0.79-1.24), P=0.66 | **-3.61 (-6.09--1.13), P<0.01** | 1.05 (-1.74-3.84), P=0.46 | 0.44 (-0.77-1.64), P=0.48 | 0.86 (-0.94-2.65), P=0.35 |
| Completed primary school |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |
| Some secondary school | -0.64 (-1.67-0.39), P=0.22 | -0.52 (-1.55-0.51), P=0.32 | 0.01 (-0.09-0.11), P=0.89 | 0.02 (-0.09-0.13), P=0.75 | 1.3 (-0.57-3.16), P=0.17 | 0.66 (-0.79-2.11), P=0.37 | 0.11 (-3.87-4.08), P=0.96 | 0.25 (-3.79-4.29), P=0.9 | 0.01 (-1.92-1.94), P=0.99 | 0.94 (-1.66-3.55), P=0.48 |
| Completed secondary school | 0.09 (-0.8-0.98), P=0.85 | 0.64 (-0.11-1.39), P=0.09 | -0.04 (-0.13-0.05), P=0.36 | 0.04 (-0.04-0.12), P=0.35 | -0.74 (-2.31-0.83), P=0.36 | 0.45 (-0.61-1.52), P=0.41 | -0.87 (-4.3-2.55), P=0.62 | 2.06 (-0.89-5), P=0.17 | -0.08 (-1.74-1.59), P=0.93 | 0.71 (-1.19-2.61), P=0.47 |
| Attended university | -1.03 (-2.66-0.59), P=0.21 | -0.27 (-2.85-2.31), P=0.84 | -0.06 (-0.21-0.1), P=0.48 | 0.07 (-0.21-0.35), P=0.62 | -1.53 (-4.4-1.34), P=0.3 | 0.06 (-3.58-3.7), P=0.97 | **-8.58 (-14.84--2.32), P=0.01** | -0.96 (-11.11-9.19), P=0.85 | 0.24 (-2.8-3.29), P=0.88 | 3.67 (-2.88-10.21), P=0.27 |
| Income level |
| Lower 3rd  | 0.35 (-0.35-1.05), P=0.33 | -0.27 (-1.03-0.5), P=0.49 | 0.04 (-0.03-0.1), P=0.26 | 0.04 (-0.05-0.12), P=0.39 | 0.38 (-0.86-1.63), P=0.55 | -0.22 (-1.29-0.84), P=0.68 | 1.22 (-1.51-3.95), P=0.38 | 0.67 (-2.34-3.67), P=0.66 | 0.63 (-0.67-1.92), P=0.35 | -0.02 (-1.95-1.91), P=0.98 |
| Middle 3rd | 0.31 (-0.53-1.14), P=0.48 | 0.38 (-0.51-1.27), P=0.41 | 0.01 (-0.07-0.09), P=0.81 | -0.01 (-0.1-0.09), P=0.91 | -0.17 (-1.66-1.32), P=0.83 | 0.69 (-0.54-1.93), P=0.27 | -1.51 (-4.79-1.78), P=0.37 | 1.57 (-1.93-5.07), P=0.38 | 0.86 (-0.7-2.42), P=0.28 | 1.67 (-0.57-3.92), P=0.15 |
| Top 3rd | -0.17 (-0.92-0.58), P=0.66 | -0.25 (-1.24-0.73), P=0.61 | 0.03 (-0.04-0.1), P=0.45 | 0.06 (-0.05-0.17), P=0.28 | -0.39 (-1.74-0.95), P=0.57 | -0.76 (-2.13-0.6), P=0.27 | -0.44 (-3.4-2.51), P=0.77 | 0.65 (-3.22-4.52), P=0.74 | -0.17 (-1.57-1.23), P=0.81 | 0.69 (-1.79-3.17), P=0.59 |
| Income unknown |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |  ref |
| Assets | -0.52 (-1.2-0.16), P=0.14 | **-0.83 (-1.51--0.14), P=0.02** | -0.02 (-0.09-0.04), P=0.47 | -0.05 (-0.12-0.03), P=0.2 | 0.09 (-1.12-1.29), P=0.89 | **-1.05 (-2.02--0.07), P=0.04** | -0.29 (-2.97-2.39), P=0.83 | -1.57 (-4.26-1.13), P=0.26 | -0.62 (-1.89-0.64), P=0.34 | -1.13 (-2.87-0.6), P=0.2 |
| Kitchen | 0.11 (-1.01-1.23), P=0.85 | -0.51 (-1.54-0.52), P=0.33 | -0.04 (-0.14-0.07), P=0.51 | -0.1 (-0.21-0.02), P=0.09 | -0.46 (-2.43-1.51), P=0.65 | 0.59 (-0.85-2.03), P=0.43 | -1.51 (-5.9-2.89), P=0.5 | -0.81 (-4.84-3.22), P=0.69 | 0.1 (-1.98-2.17), P=0.93 | -0.81 (-3.41-1.79), P=0.54 |
| Mattress | 0.51 (-0.03-1.06), P=0.07 | 0.4 (-0.17-0.97), P=0.17 | 0.04 (-0.01-0.09), P=0.13 | 0.03 (-0.03-0.09), P=0.39 | 0.46 (-0.52-1.43), P=0.36 | 0.33 (-0.48-1.14), P=0.43 | 1.5 (-0.64-3.65), P=0.17 | 0.81 (-1.42-3.04), P=0.48 | 1.28 (0.27-2.28), P=0.01 | 1.9 (0.48-3.32), P=0.01 |
| Television | 0.06 (-0.56-0.68), P=0.85 | -0.13 (-0.77-0.52), P=0.7 | -0.01 (-0.07-0.05), P=0.77 | -0.05 (-0.12-0.02), P=0.17 | 0.07 (-1.02-1.17), P=0.9 | -0.21 (-1.12-0.7), P=0.65 | 0.11 (-2.32-2.54), P=0.93 | -2.42 (-4.91-0.07), P=0.06 | 0.68 (-0.47-1.82), P=0.25 | -1.24 (-2.85-0.37), P=0.13 |