

Supplemental Information

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S1 Nutrient content of lipid-based micro-nutrient supplement (SQ-LNS).

Nutrient	Amount
Energy, kcal	118
Protein, g	2.6
Fat, g	10
Linoleic acid, g	4.6
A-Linolenic acid, g	0.6
Calcium, mg	280
Copper, mg	4
Folate, µg	400
Iodine, µg	250
Iron, mg	20
Magnesium, mg	65
Manganese, mg	2.6
Niacin, mg	36
Pantothenic acid (B5), mg	7
Phosphorus, mg	190
Potassium, mg	200
Riboflavin (B2), mg	2.8
Selenium, µg	130
Thiamine (B1), mg	2.8
Vitamin A, µg	800
Vitamin B12, µg	5.2
Vitamin B6, mg	3.8
Vitamin C, mg	100
Vitamin D2, IU	1000
Vitamin E, mg	20
Vitamin K, µg	45
Zinc, mg	15
Total daily dose	20 g

Source: Hambidge, K.M., Krebs, N.F., Westcott, J.E. *et al.* Preconception maternal nutrition: a multi-site randomized controlled trial. *BMC Pregnancy Childbirth* **14**, 111 (2014). <https://doi.org/10.1186/1471-2393-14-11>.

S2 Study Design & Follow-up.

Timeline ►	Preconceptional period	Prenatal period	0 (Birth)		12 months	24 months			
Arm ▼	Maternal supplementation	Maternal supplementation n	Birth & health outcomes	Weight, length & HC	Weight, length & HC	Weight, length & HC	Family care indicators	ECD assessment: INTER-NDA, vision, CA-ERPs	Health outcomes
1									
2									
3									

ECD: Early child development; INTER-NDA: The INTERGROWTH-21st Neurodevelopment Assessment; CA-ERPs: Cortical Auditory Evoked Response Potentials

S3 INTER-NDA thresholds for delay according to the INTERGROWTH-21st Project International INTER-NDA standards for child development at two years of age.

INTER-NDA domain	Pooled Centiles (n=1181)						
	c3	c10	c25	c50	c75	c90	c97
Cognitive¹	27.4	38.5	62.2	79.5	88.8	92.6	99.6
Fine motor¹	17.5	25.7	74.2	91.4	100.0	100.0	100.0
Gross motor¹	31.1	51.7	66.7	81.6	100.0	100.0	100.0
Language¹	12.1	17.8	45.7	71.7	88.5	95.1	100.0
Positive behaviour¹	37.8	51.4	70.0	90.0	100.0	100.0	100.0
Negative behaviour²	0.0	0.0	0.0	25.0	25.0	50.0	76.5

INTER-NDA: The INTERGROWTH-21st Neurodevelopment Assessment

¹For these domains, higher scores reflect better outcomes; the thresholds for severe delay and mild-to-moderate delay are defined as $\leq 3^{\text{rd}}$ and $3^{\text{rd}}-10^{\text{th}}$ centiles. The threshold for *any* delay is defined as $\leq 10^{\text{th}}$ centile.

²For negative behaviour, lower scores reflect better outcomes; the thresholds for severe delay and mild-to-moderate delay are defined as $\geq 97^{\text{th}}$ and $90^{\text{th}}-97^{\text{th}}$ centiles. The threshold for *any* delay is defined as $\geq 90^{\text{th}}$ centile.

Source: Fernandes M, Villar J, Stein A, Urias ES, Garza C, Victora CG, Barros FC, Bertino E, Purwar M, Carvalho M, Giuliani F. INTERGROWTH-21st Project international INTER-NDA standards for child development at 2 years of age: an international prospective population-based study. *BMJ open*. 2020 Jun 1;10(6):e035258.

S4 Auditory Cortical Evoked Response Potentials experiment protocol.

Cortical auditory evoked response potentials (CA-ERP) acquisition:

The ability of children to detect and discriminate novel auditory events was assessed by measuring CA-ERPs to the 'novelty oddball' ERP task using wireless, gel-free electroencephalography (EEG). In the novelty oddball task, three types of auditory stimuli were presented to the child: (i) pure sinusoidal tones (1.5 kHz, 200 ms long, 5 ms rise and fall time, 70 dB SPL) repeated at high probability ('frequent'); (ii) pure sinusoidal tones (2 kHz, 200 ms long, 5 ms rise and fall time, 70 dB Sound Pressure Level, SPL) repeated at low probability ('infrequent'); and (iii) trial-unique novel stimuli presented at low probability e.g. dog bark, bell ring ('novel'). Two-blocks of 700 stimuli each were presented (560 frequent, 70 infrequent and 70 novels). The duration of each stimulus was 200 ms with an onset asynchrony of 700 ms.

In this study, we implemented the EEG acquisition and extraction protocol as described by Kihara et al¹. Auditory stimuli were presented to the child through earphones integrated into a wireless EEG recording cap (Enobio® EEG systems²). EEG was recorded at a sampling rate of 500 Hz (band-pass 0.1–70 Hz) from midline leads at Fz, Cz and Pz; lateral leads T3, T4, T5, T6; an ocular lead Fp2 and the left mastoid process (M2). All locations were referenced to the left mastoid (M2). Impedances were maintained at ≤ 10 k Ω . The operational manual for the auditory assessment is available at <https://www.intergrowth21.org.uk>.

CA-ERP Processing:

EEG processing was undertaken in MATLAB 2019a (© 1994-2021 The MathWorks, Inc.). EEG data were band-pass filtered offline at between 0.5 and 10 Hz using a feed-forward zero-phase filter. All trials were baseline corrected. Trials containing amplitude deflections exceeding ± 75 μ V were rejected, as they were considered affected by external and/or physiological artifacts. ERP waveforms were visually identified. For the analysis of infrequent and novel stimuli, all artifact-free trials were employed. In order to maintain an equal distribution of frequent, infrequent and novel tones, and to provide similar signal-to-noise ratios, the frequent stimulus immediately preceding each infrequent stimulus were selected for averaging¹. A minimum of 20 trials for each stimulus was required for inclusion of an individual average ERP waveform.

The components of interest were the: P1, N2 and P3a, automatically detected in the time frames 70–110 ms, 210–270 ms and 270–370 ms, respectively, from midline and temporal locations¹. In children, these peaks are the typical components observed in a passive auditory novelty oddball. The P1 is a positive peak around 100 ms after stimulus onset and represents an obligatory cortical auditory ERP reflecting sensory encoding of auditory stimuli³. The N2 is a negative peak around 200 ms after stimulus onset and represents a response to deviations in a prevailing stimulus⁴. The P3a is a positive peak around 250–350 ms, and represents involuntary orienting of attention to

distracting/unexpected environmental sounds occurring among frequently repeated tones⁵.

The ERP metrics studied in this analysis in a given epoch, for each peak, are: (1) the Maximum Amplitude (A_{\max}) ERP peak (expressed in microvolts, μV), calculated as the maximum amplitude in the observation window; and (2) the latency (T_{lat}) of the ERP peak (expressed in ms) defined as the duration from stimulus presentation to A_{\max} ¹. For comparison between study arms, values were averaged across the 4 temporal electrodes.

References:

1. Kihara M, Hogan AM, Newton CR, Garrashi HH, Neville BR, de Haan M. Auditory and visual novelty processing in normally-developing Kenyan children. *Clinical Neurophysiology*. 2010 Apr 1;121(4):564-76.
2. <https://www.neuroelectrics.com/solutions/enobio>
3. Sharma A, Kraus N, McGee TJ, Nicol TG. Developmental changes in P1 and N1 central auditory responses elicited by consonant-vowel syllables. *Electroencephalography and Clinical Neurophysiology/Evoked Potentials Section*. 1997 Nov 1;104(6):540-5.
4. Naatanen R, Picton T. N2 and Automatic Versus Controlled Processes, *Cerebral Psychophysiology. Studies at Event-Related Potentials*. McCallum WC, Zappoli R, Denoth I (Ed),(EEG Suppl. 38).
5. Soltani M, Knight RT. Neural origins of the P300. *Critical Reviews™ in Neurobiology*. 2000;14(3-4).

Table S5 Proportional contribution of study site and arm to Early Child Development outcomes at the 2-year follow-up.

Study Site	Arm			Total N(%)
	Arm 1: Preconception intervention	Arm 2: Pregnancy intervention	Arm 3: Control	
INTER-NDA Outcomes				
DRC (n)	43	44	47	134 (20.1)
Guatemala (n)	51	61	61	173 (25.9)
India (n)	56	60	53	169 (25.3)
Pakistan (n)	67	65	59	191 (28.7)
Total (n, %)	217 (32.5)	230 (34.5)	220 (33.0)	667 (100)
Vision Outcomes				
DRC (n)	43	38	44	125 (19.9)
Guatemala (n)	49	57	57	163 (26.0)
India (n)	52	57	52	161 (25.7)
Pakistan (n)	59	60	59	178 (28.4)
Total (n, %)	203 (32.4)	212 (33.8)	212 (33.8)	627 (100.0)
CA-ERP Outcomes				
DRC (n)	8	10	3	21 (16.9)
Guatemala (n)	12	7	13	32 (25.8)
India (n)	12	12	13	37 (29.8)
Pakistan (n)	13	11	10	34 (27.4)
Total (n, %)	45 (36.3)	40 (32.3)	39 (31.5)	124 (100)

INTER-NDA: The INTERGROWTH-21st Neurodevelopment Assessment;
DRC = Democratic Republic of the Congo; CA-ERP: Cortical auditory evoked response potentials.

Table S6 Correlations between Early Child Development Outcomes and Early Life Exposures.

	Vision n=613		INTER-NDA scores n=667						ERP Latencies n=123									ERP maximum amplitudes n=123								
	Visual Acuity	Contrast Sensitivity	Cognition	Fine Motor	Gross Motor	Language	Positive Behaviour	Negative Behaviour	P1 - frequent	P1 - infrequent	P1 - novel	N2 - frequent	N2 - infrequent	N2 - novel	P3a - frequent	P3a - infrequent	P3a - novel	P1 - frequent	P1 - infrequent	P1 - novel	N2 - frequent	N2 - infrequent	N2 - novel	P3a - frequent	P3a - infrequent	P3a - novel
Age at INTER-NDA assessment	r	-0.05	-0.08	0.14	0.13	0.01	0.03	0.06	-0.02	0.24	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	-0.27	0.1	0.0	0.1	0.1	0.1	0.0	0.1
	p	0.24	0.04*	<0.01**	<0.01**	0.81	0.48	0.11	0.57	1*	0	4	9	4	6	9	7	0	0	<0.01**	8	7	8	6	9	8
Maternal age at birth	r	0.12	0.10	-0.06	-0.06	-0.02	0.06	0.00	-0.02	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	-0.04	0.1	0.1	0.0	0.0	0.0	0.0	
	p	<0.001**	0.01*	0.10	0.14	0.71	0.12	0.92	0.56	1	7	6	5	6	8	1	1	6	0.65	4*	2	4	4	4	3	8
Number of previous pregnancies	r	-0.09	-0.03	-0.08	-0.03	-0.01	-0.13	-0.02	0.01	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.05	0.1	0.1	0.0	0.1	0.1	0.0	
	p	0.02*	0.46	0.04*	0.50	0.83	<0.01**	0.54	0.90	7	5	0	5	0	3	8	9	0	0.60	8	8	0	1	5	6	6
Gestational age at birth, in weeks	r	-0.14	-0.11	0.15	0.07	0.06	0.15	0.04	-0.07	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.01	0.0	0.1	0.0	0.0	0.1	0.2	
	p	<0.001**	0.02*	<0.01**	0.13	0.20	<0.01**	0.37	0.14	5	4	5	7	9	7	0	7	2	0.91	4	3	1	9	3	4	9
Number of hospital admissions in the first 2 years of life	r	0.13	0.07	-0.02	-0.18	-0.03	-0.11	0.03	0.02	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.14	0.6	0.1	0.0	0.1	0.0	0.0	
	p	0.44	0.64	0.92	0.25	0.84	0.49	0.86	0.90	0	4	5	8	0	1	4	5	8	-0.14	6	1	4	9	4	4	
LAZ _{birth}	r	-0.08	-0.08	0.16	0.07	0.13	-0.15	0.04	-0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.19	0.1	0.1	0.0	0.1	0.0	0.1	
	p	0.06	0.04*	<0.01**	0.06	<0.01**	<0.01**	0.29	0.35	4	5	1	9	7	0	2	6	4	0.04*	9	0	3*	9	8	4	4
LAZ ₁₂	r	-0.17	-0.19	0.28	0.18	0.22	0.28	0.15	-0.07	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.01	0.0	0.1	0.0	0.1	0.0	0.0	
	p	<0.001**	<0.01**	<0.01**	<0.01**	<0.01**	<0.01**	<0.01**	0.09	5	8	8	2	3	3	3	1	5	0.88	9	5	3	6	2	8	6
LAZ ₂₄	r	-0.20	-0.19	0.34	0.25	0.29	0.34	0.20	-0.11	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.05	0.0	0.1	0.0	0.1	0.0	0.0	0.0	

	p	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.01*	0.36	0.41	0.89	0.43	0.64	0.36	0.96	0.59	0.19	0.97	0.58	0.60	0.19	0.38	0.25	0.54	0.78	0.63	
WAZ _{birth}	r	-0.04	-0.05	0.14	0.08	0.15	0.11	0.00	-0.01	0.05	0.18	0.06	0.13	0.14	0.10	0.03	0.00	0.10	0.10	-0.17	0.09	0.20	0.08	0.09	0.05	0.19	0.01	
	p	0.38	0.26	<0.001**	0.05	<0.001**	0.01*	0.97	0.75	0.62	0.05	0.55	0.85	0.16	0.14	0.71	0.93	0.42	0.22	0.09	0.06	0.35	0.03*	0.41	0.32	0.58	0.04*	0.88
WAZ ₁₂	r	-0.18	-0.17	0.25	0.19	0.19	0.26	0.05	-0.03	0.09	0.14	0.07	0.04	0.01	0.02	0.04	0.06	0.10	0.03	-0.04	0.02	0.00	0.04	0.00	0.10	0.00	0.04	0.06
	p	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.20	0.42	0.34	0.12	0.48	0.63	0.90	0.85	0.67	0.51	0.27	0.73	0.64	0.81	0.98	0.68	0.62	0.27	0.99	0.68	0.55
WAZ ₂₄	r	-0.17	-0.16	0.27	0.21	0.24	0.30	0.08	-0.02	0.09	0.10	0.02	0.00	0.00	0.01	0.00	0.05	0.10	0.00	-0.04	0.04	0.06	0.07	0.09	0.02	0.04	0.02	0.02
	p	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.05	0.53	0.33	0.30	0.79	0.67	0.99	0.90	0.98	0.62	0.20	0.66	0.65	0.68	0.55	0.45	0.35	0.55	0.88	0.65	0.85
HCAZ _{birth}	r	-0.12	-0.09	0.16	0.08	0.07	0.20	0.05	-0.13	0.10	0.07	0.03	0.06	0.12	0.20	0.03	0.00	0.05	0.05	0.21	-0.05	0.14	0.14	0.06	0.00	0.10	0.10	0.03
	p	<0.001**	0.03*	<0.001**	0.05	0.06	<0.001**	0.24	<0.001**	0.30	0.48	0.71	0.54	0.83	0.03*	0.66	0.57	0.56	0.57	0.70	0.61	0.33	0.44	0.54	0.52	0.37	0.03*	0.77
HCAZ ₁₂	r	-0.17	-0.14	0.20	0.16	0.11	0.22	0.00	-0.08	0.04	0.01	0.08	0.10	0.00	0.01	0.00	0.03	0.10	0.00	0.00	0.00	0.00	0.06	0.00	0.08	0.02	0.01	0.04
	p	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.94	0.03*	0.67	0.95	0.39	0.30	0.63	0.95	0.87	0.78	0.27	0.76	0.98	0.46	0.35	0.54	0.40	0.85	0.93	0.69	0.69
HCAZ ₂₄	r	-0.10	-0.08	0.18	0.14	0.13	0.18	0.01	-0.06	0.07	0.01	0.07	0.12	0.00	0.02	0.03	0.00	0.05	0.00	-0.05	0.02	0.18	0.13	0.06	0.00	0.07	0.00	0.03
	p	0.01*	0.04*	<0.001**	<0.001**	<0.001**	<0.001**	0.83	0.12	0.48	0.94	0.43	0.20	0.64	0.84	0.66	0.61	0.10	0.73	0.61	0.66	0.55	0.66	0.54	0.44	0.46	0.35	0.76
Socioeconomic status	r	-0.10	-0.16	0.30	0.16	0.15	0.22	0.19	0.11	0.02	0.01	0.09	0.00	0.00	0.01	0.00	0.08	0.10	0.00	-0.03	0.08	0.05	0.00	0.10	0.00	0.05	0.03	0.12
	p	0.02*	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.01*	0.83	0.28	0.33	0.31	0.99	0.30	0.68	0.81	0.34	0.27	0.76	0.37	0.60	0.99	0.44	0.62	0.65	0.75	0.21
Number of years of maternal education	r	-0.40	-0.38	0.37	0.16	0.07	0.43	0.06	-0.04	0.09	0.06	0.06	0.00	0.00	0.02	0.00	0.00	0.10	0.10	0.01	0.05	0.04	0.03	0.10	0.00	0.10	0.01	0.05
	p	<0.001**	<0.001**	<0.001**	<0.001**	0.09	<0.001**	0.15	0.31	0.31	0.50	0.55	0.45	0.80	0.95	0.39	0.39	0.10	0.28	0.96	0.62	0.69	0.77	0.05	0.54	0.06	0.06	0.59
FCI: varieties of play materials	r	-0.07	-0.13	0.27	0.28	0.21	0.22	0.20	-0.10	0.09	0.11	0.04	0.00	0.08	0.06	0.15	0.01	0.10	0.08	-0.01	0.07	0.18	0.00	0.10	0.00	0.07	0.01	0.11
	p	0.08	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	<0.001**	0.01*	0.35	0.23	0.70	0.91	0.38	0.55	0.09	0.15	0.28	0.39	0.89	0.43	0.05	0.98	0.30	0.00	0.30	0.46	0.91
FCI: Play activities	r	-0.17	-0.11	0.21	0.25	0.17	0.27	0.08	-0.01	0.14	0.04	0.04	0.00	0.00	0.06	0.00	0.04	0.00	0.00	-0.06	0.15	0.12	0.00	0.00	0.10	0.10	0.10	0.07
	p	<0.001**	0.01*	<0.001**	<0.001**	<0.001**	<0.001**	0.05	0.82	0.13	0.71	0.68	0.31	0.65	0.51	0.66	0.94	0.99	0.36	0.49	0.00	0.20	0.93	0.67	0.00	0.62	0.00	0.48

FCI: Sources of play materials	r	0.01	0.01	0.06	0.13	0.07	0.00	0.12	-0.07	0.11	0.02	0.02	0.03	0.19	0.05	0.04	0.13	0.08	0.02	-0.04	0.02	0.16	0.02	0.03	0.06	0.11	0.05
	p	0.74	0.77	0.16	<0.001**	0.06	0.98	<0.001**	0.07	0.25	0.81	0.82	0.72	0.04	0.60	0.66	0.17	0.39	0.87	0.65	0.79	0.09	0.87	0.74	0.54	0.22	0.58
FCI: Household books	r	-0.12	-0.11	0.18	0.13	0.06	0.16	0.04	-0.06	0.12	0.10	0.06	0.10	0.05	0.06	0.00	0.20	0.00	0.03	0.15	0.08	0.00	0.11	0.06	0.00	0.01	0.00
	p	<0.001**	0.01*	<0.001**	<0.001**	0.14	<0.001**	0.30	0.15	0.20	0.30	0.51	0.29	0.57	0.50	0.94	1.00	0.03*	0.91	0.79	0.11	0.37	0.78	0.24	0.52	0.93	1.00

r: Pearson correlation (as early life exposures were normally distributed). **p<0.001; *p<0.05.

LAZ_{birth}, LAZ₁₂, LAZ₂₄: WHO z scores for length at birth, 12 and 24 months; WAZ_{birth}, WAZ₁₂, WAZ₂₄: WHO z scores for weight at birth, 12 and 24 months; HCAZ_{birth}, HCAZ₁₂, HCAZ₂₄: WHO z scores for head circumference at birth, 12 and 24 months. FCI: Family Care Indicators. Socio-economic status: the SES tally provides the number of indicators available from the following list: electricity, improved water source, sanitation, synthetic flooring, improved cooking fuels, transportation and household assets. F: ANOVA test statistic; X²: Chi-Square test statistic.

Table S7 Comparisons of Early Life Exposures between children with delay/low vision and without delay/low vision.

Early Life Indicator (Mean, SD)	Normal vision/no delay	Low vision/any delay	Unadjusted pairwise comparisons [^]	Effect Size (95% CI)
I. Visual Acuity	n=453	n=160		
Maternal age*	23.02 (4.07)	24.26 (3.91)	t=-3.35, p=0.001	-0.31 (-0.49, -0.13)
Parity*	1.64 (1.32)	1.91 (1.53)	t=-2.14, p=0.03	-0.20 (-0.37, -0.02)
Gestational age at birth*	39.47 (4.94)	38.58 (1.84)	t=2.07, p=0.04	0.21 (0.01, 0.41)
LAZ ₁₂ *	70.39 (2.87)	69.48 (3.15)	t=3.36, p=0.001	0.31 (0.13, 0.49)
LAZ ₂₄ **	80.01 (3.41)	78.53 (3.99)	t=4.48, p<0.001	0.41 (0.23, 0.60)
LAZ ₁₂ **	8.01 (1.04)	7.53 (1.21)	t=4.85, p<0.001	0.45 (0.26, 0.63)
LAZ ₂₄ **	9.82 (1.19)	9.32 (1.43)	t=4.29, p<0.001	0.40 (0.21, 0.58)
HCAZ _{birth} **	33.32 (1.31)	32.85 (1.49)	t=3.71, p<0.001	0.34 (0.16, 0.53)
HCAZ ₁₂ **	44.06 (1.47)	43.41 (1.69)	t=4.63, p<0.001	0.43 (0.24, 0.61)
HCAZ ₂₄ **	46.12 (1.43)	45.70 (1.70)	t=2.97, p=0.003	0.28 (0.09, 0.46)
SES**	4.74 (2.86)	3.61 (2.52)	t=4.40, p<0.001	0.41 (0.23, 0.59)
Number of years of maternal schooling**	5.43 (4.20)	1.59 (2.67)	t=10.83, p<0.001	0.99 (0.81, 1.18)
FCI: Play activities*	5.62 (1.90)	5.09 (2.09)	t=2.95, p=0.003	0.27 (0.09, 0.46)
FCI: Household books*	0.36 (0.79)	0.19 (0.74)	t=2.31, p=0.02	0.21 (0.03, 0.40)
II. Contrast Sensitivity	n=484	n=129		
Maternal age*	23.14 (4.13)	23.99 (3.96)	t=-2.10, p=0.04	-0.21 (-0.40, -0.01)
Gestational age at birth	39.35 (4.75)	38.66 (1.59)	t=1.46, p=0.15	0.16 (-0.06, 0.38)
LAZ _{birth} *	47.63 (2.05)	47.19 (2.29)	t=2.10, p=0.04	0.21 (0.01, 0.40)
LAZ ₁₂ **	70.38 (2.87)	69.27 (3.20)	t=3.79, p<0.001	0.38 (0.18, 0.57)
LAZ ₂₄ **	79.93 (3.53)	78.45 (3.87)	t=4.10, p<0.001	0.41 (0.21, 0.61)
WAZ ₁₂ **	7.96 (1.07)	7.54 (1.16)	t=3.91, p<0.001	0.39 (0.19, 0.58)
WAZ ₂₄ *	9.76 (1.24)	9.34 (1.30)	t=3.32, p=0.001	0.33 (0.13, 0.53)
HCAZ _{birth} *	33.24 (1.33)	32.90 (1.45)	t=2.49, p=0.01	0.25 (0.05, 0.45)
HCAZ ₁₂ **	43.98 (1.48)	43.38 (1.66)	t=3.99, p<0.001	0.40 (0.20, 0.59)
HCAZ ₂₄ *	46.05 (1.49)	45.71 (1.52)	t=2.33, p=0.02	0.23 (0.04, 0.43)
SES**	4.73 (2.89)	3.43 (2.48)	t=4.65, p<0.001	0.47 (0.27, 0.66)
Number of years of maternal schooling**	5.20 (4.22)	1.58 (2.80)	t=9.25, p<0.001	0.91 (0.71, 1.11)
FCI: Varieties of play materials*	4.47 (1.65)	3.98 (1.62)	t=2.97, p=0.003	0.30 (0.10, 0.49)
FCI: Play activities*	5.57 (1.86)	5.06 (2.22)	t=2.63, p=0.009	0.26 (0.07, 0.46)
FCI: Household books*	0.33 (0.75)	0.16 (0.54)	t=2.37, p=0.02	0.24 (0.04, 0.43)
III. Cognition	n=223	n=444		
Parity*	1.62 (1.32)	1.90 (1.48)	t=-2.42, p=0.02	0.20 (0.04, 0.37)
Gestational age at birth*	39.57 (4.97)	38.46 (1.75)	t=2.82, p=0.005	-0.27 (-0.45, -0.08)
LAZ _{birth} **	47.76 (1.89)	47.12 (2.38)	t=3.76, p<0.0001	-0.31 (-0.47, -0.15)
LAZ ₁₂ **	70.70 (2.79)	69.07 (3.06)	t=6.85, p<0.001	-0.56 (-0.73, -0.40)
LAZ ₂₄ **	80.38 (3.35)	77.96 (3.81)	t=8.34, p<0.001	-0.69 (-0.86, -0.52)
WAZ _{birth} **	2.85 (0.38)	2.73 (0.41)	t=3.81, p<0.001	-0.31 (-0.48, -0.15)
WAZ ₁₂ **	8.07 (1.04)	7.52 (1.15)	t=6.31, p<0.001	-0.52 (-0.68, -0.36)

WAZ ₂₄ **	9.91 (1.22)	9.21 (1.28)	t=6.82, p<0.001	-0.57 (-0.73, -0.40)
HCAZ _{birth} **	33.37 (1.31)	32.89 (1.47)	t=4.31, p<0.001	-0.36 (-0.52, -0.19)
HCAZ ₁₂ **	44.11 (1.50)	43.50 (1.57)	t=4.88, p<0.001	-0.40 (-0.57, -0.24)
HCAZ ₂₄ **	46.19 (1.47)	45.65 (1.53)	t=4.39, p<0.001	-0.37 (-0.53, -0.20)
SES**	4.93 (2.91)	3.4 (2.42)	t=6.63, p<0.001	-0.55 (-0.72, -0.39)
Number of years of maternal schooling**	5.52 (4.20)	2.31 (3.32)	t=9.73, p<0.001	-0.82 (-0.99, -0.65)
FCI: Varieties of play materials**	4.64 (1.58)	3.81 (1.69)	t=6.16, p<0.001	-0.51 (-0.68, -0.35)
FCI: Play activities**	5.76 (1.82)	5.01 (2.18)	t=4.61, p<0.001	-0.38 (-0.55, -0.22)
FCI: Household books**	0.41 (0.91)	0.12 (0.45)	t=4.38, p<0.001	-0.37 (-0.53, -0.20)
IV. Fine Motor	n=84	n=583		
LAZ ₁₂ **	70.35 (2.88)	68.77 (3.29)	t=-4.55, p<0.001	-0.54 (-0.77, -0.30)
LAZ ₂₄ **	79.90 (3.54)	77.23 (3.94)	t=-6.20, p<0.001	-0.75 (-0.99, -0.51)
WAZ ₁₂ **	7.96 (1.06)	7.37 (1.27)	t=-4.59, p<0.001	-0.54 (-0.77, -0.31)
WAZ ₂₄ **	9.77 (1.24)	9.03 (1.39)	t=-4.85, p<0.001	-0.59 (-0.82, -0.35)
HCAZ ₁₂ **	43.99 (1.51)	43.33 (1.69)	t=-3.63, p<0.001	-0.43 (-0.67, -0.20)
HCAZ ₂₄ **	46.09 (1.47)	45.48 (1.71)	t=-3.36, p=0.001	-0.41 (-0.64, -0.17)
SES**	4.64 (2.85)	2.86 (2.37)	t=-5.26, p<0.001	-0.64 (-0.87, -0.40)
Number of years of maternal schooling**	4.69 (4.23)	2.67 (3.54)	t=-3.91, p<0.001	-0.49 (-0.73, -0.24)
FCI: Varieties of play materials**	4.51 (1.60)	3.30 (1.75)	t=-6.20, p<0.001	-0.79 (-0.99, -0.51)
FCI: Play activities**	5.63 (1.92)	4.63 (2.13)	t=-4.26, p<0.001	-0.51 (-0.75, -0.28)
FCI: Sources of play materials*	2.46 (0.65)	2.22 (0.80)	t=-2.97, p=0.003	-0.36 (-0.60, -0.12)
FCI: Household books*	0.35 (0.84)	0.05 (0.27)	t=-3.12, p=0.002	-0.38 (-0.61, -0.14)
V. Gross Motor	n=58	n=609		
LAZ _{birth} *	47.62 (2.05)	46.78 (2.35)	t=-2.94, p=0.003	-0.40 (-0.67, -0.13)
LAZ ₁₂ **	70.34 (2.91)	68.15 (2.99)	t=-5.36, p<0.001	-0.75 (-1.03, -0.47)
LAZ ₂₄ **	79.87 (3.53)	76.46 (3.95)	t=-6.80, p<0.001	-0.96 (-1.24, -0.68)
WAZ _{birth} **	2.83 (0.38)	2.62 (0.44)	t=-3.85, p<0.001	-0.53 (-0.80, -0.26)
WAZ ₁₂ **	7.95 (1.07)	7.26 (1.30)	t=-4.54, p<0.001	-0.63 (-0.91, -0.36)
WAZ ₂₄ **	9.75 (1.25)	8.93 (1.37)	t=-4.63, p<0.001	-0.65 (-0.93, -0.37)
HCAZ ₁₂ **	43.97 (1.52)	43.26 (1.70)	t=-3.29, p=0.001	-0.46 (-0.73, -0.18)
HCAZ ₂₄ **	46.07 (1.48)	45.36 (1.69)	t=-3.39, p=0.001	-0.48 (-0.76, -0.20)
SES**	4.61 (2.86)	2.44 (1.86)	t=-5.62, p<0.001	-0.78 (-1.05, -0.50)
FCI: Varieties of play materials**	4.47 (1.63)	3.26 (1.64)	t=-5.32, p<0.001	-0.74 (-1.01, -0.46)
FCI: Play activities*	5.58 (1.95)	4.79 (2.10)	t=-2.90, p=0.004	-0.40 (-0.67, -0.13)
VI. Language	n=589	n=78		
Parity	1.69 (1.37)	1.71 (1.38)	t=0.13, p=0.89	0.02 (-0.23, 0.26)
Gestational age at birth**	41.61 (13.19)	38.98 (1.89)	t=-3.90, p<0.001	-0.64 (-0.96, -0.31)
LAZ _{birth}	47.96 (1.85)	47.49 (2.11)	t=-1.86, p=0.06	-0.22 (-0.46, 0.01)
LAZ ₁₂ *	71.14 (2.39)	70.02 (3.03)	t=-3.12, p=0.002	-0.38 (-0.62, -0.14)
LAZ ₂₄ *	80.93 (2.90)	79.41 (3.74)	t=-3.44, p=0.001	-0.42 (-0.66, -0.18)
WAZ _{birth}	2.85 (0.33)	2.80 (0.40)	t=-1.10, p=0.27	-0.13 (-0.37, 0.10)
WAZ ₁₂ *	8.20 (0.99)	7.85 (1.12)	t=-2.56, p=0.01	-0.31 (-0.55, -0.07)
WAZ ₂₄ *	10.11 (1.14)	9.63 (1.29)	t=-3.15, p=0.002	-0.38 (-0.62, -0.14)
HCAZ _{birth} *	33.52 (1.36)	33.27 (1.38)	t=-2.14, p=0.03	-0.26 (-0.46, -0.02)

HCAZ ₁₂ *	44.27 (1.40)	43.86 (1.56)	t=-2.19, p=0.03	-0.27 (-0.50, -0.03)
HCAZ ₂₄ **	46.28 (1.32)	45.99 (1.53)	t=-1.64, p=0.10	-0.20 (-0.44, 0.04)
SES	4.43 (2.77)	4.39 (3.42)	t=0.11, p=0.91	0.01 (-0.22, 0.25)
Number of years of maternal schooling*	5.66 (4.04)	4.31 (4.20)	t=-2.62, p=0.009	-0.32 (-0.57, -0.08)
FCI: Varieties of play materials	4.55 (1.98)	4.34 (1.62)	t=-1.03, p=0.30	-0.13 (-0.36, 0.11)
FCI: Play activities**	6.30 (1.75)	5.40 (1.98)	t=-3.78, p<0.001	-0.46 (-0.70, -0.21)
FCI: Household books**	0.58 (1.12)	0.28 (0.74)	t=-3.21, p=0.001	-0.39 (-0.63, -0.15)
VI. Positive Behaviour	n=494	n=173		
LAZ ₁₂ *	70.37 (2.87)	69.53 (3.19)	t=3.20, p=0.001	0.28 (0.11, 0.46)
LAZ ₂₄ **	79.95 (3.53)	78.52 (3.95)	t=4.38, p<0.001	0.39 (0.22, 0.57)
SES**	4.80 (2.81)	3.13 (2.68)	t=5.95, p<0.001	0.54 (0.36, 0.71)
FCI: Varieties of play materials**	4.59 (1.55)	3.69 (1.81)	t=6.22, p<0.001	0.56 (0.38, 0.74)
FCI: Play activities*	5.61 (1.92)	5.22 (2.10)	t=2.22, p=0.03	0.20 (0.02, 0.38)
FCI: Sources of play materials*	2.48 (0.64)	2.28 (0.75)	t=3.26, p=0.001	0.29 (0.12, 0.47)
VII. Negative Behaviour	n=52	n=615		
LAZ ₂₄ *	79.67 (3.58)	78.57 (4.70)	t=-2.08, p=0.04	-0.30 (-0.58, -0.02)
HCAZ _{birth}	33.45 (1.35)	33.19 (1.38)	t=1.32, p=0.19	0.20 (-0.09, 0.47)
HAZ ₁₂	44.17 (1.77)	43.89 (1.52)	t=1.24, p=0.21	0.18 (-0.11, 0.47)
SES	4.44 (2.85)	4.16 (2.90)	t=-0.67, p=0.51	-0.09 (-0.39, 0.19)
FCI: Varieties of play materials*	4.41 (1.63)	3.78 (1.95)	t=-2.57, p=0.01	-0.38 (-0.67, -0.09)

^Unadjusted pairwise mean differences and effect sizes with 95% confidence limits were obtained from *t* test assuming equal variance across arms; effect sizes are presented as Cohen's *d*. **p<0.001; *p<0.05.

FCI: Family Care Indicators. LAZ_{birth}, LAZ₁₂, LAZ₂₄: WHO z scores for length at birth, 12 and 24 months; WAZ_{birth}, WAZ₁₂, WAZ₂₄: WHO z scores for weight at birth, 12 and 24 months; HCAZ_{birth}, HCAZ₁₂, HCAZ₂₄: WHO z scores for head circumference at birth, 12 and 24 months. SES: Socio-economic status, the SES tally provides the number of indicators available from the following list: electricity, improved water source, sanitation, synthetic flooring, improved cooking fuels, transportation and household assets. F: ANOVA test statistic; X²: Chi-Square test statistic.