

Supplemental Information

**SUPPLEMENTAL TABLE 4** Univariable Associations Between the Early Motor Repertoire and Neurodevelopmental Outcome Presenting Unstandardized Coefficients B (Represents Change in Dependent Variable per Unit Change in Independent Variable) (95% CI) and R<sup>2</sup> for Analyses, Excluding Children With CP: General Cognition

Early Motor Repertoire	Verbal Reasoning Composite SS, n = 70	Nonverbal Reasoning Composite SS, n = 71	Spatial Reasoning Composite SS, n = 71	General Conceptual Ability SS, n = 70
FMs: absent or normal	17.7 (7.72–27.7); P = .001; R <sup>2</sup> = 0.155	14.0 (3.55–24.5); P = .009; R <sup>2</sup> = 0.094	20.7 (8.54–32.8); P = .001; R <sup>2</sup> = 0.144	19.3 (8.25–30.3); P = .001; R <sup>2</sup> = 0.152
Observed movement patterns: N<A or N=A, N>A	10.7 (1.72–19.7); P = .020; R <sup>2</sup> = 0.077	11.8 (1.89–21.6); P = .020; R <sup>2</sup> = 0.076	19.8 (8.48–31.0); P = .001; R <sup>2</sup> = 0.151	16.4 (6.95–25.9); P = .001; R <sup>2</sup> = 0.150
Age-adequacy: absent, reduced, or present	5.37 (2.04–8.70); P = .002; R <sup>2</sup> = 0.132	5.55 (1.89–9.20); P = .003; R <sup>2</sup> = 0.117	9.16 (5.09–13.2); P < .001; R <sup>2</sup> = 0.226	7.57 (4.09–11.1); P < .001; R <sup>2</sup> = 0.217
Observed postural patterns: N<A or N=A, N>A	4.32 (-2.81–11.5); P = 0.23; R <sup>2</sup> = 0.021	7.08 (-0.65–14.8); P = 0.072; R <sup>2</sup> = 0.046	11.5 (2.49–20.5); P = .013; R <sup>2</sup> = 0.086	8.93 (1.30–16.6); P = .023; R <sup>2</sup> = 0.074
Movement character: abnormal, not CS, smooth and fluent	10.8 (5.16–16.4); P < .001; R <sup>2</sup> = 0.177	11.6 (5.50–17.7); P < .001; R <sup>2</sup> = 0.173	16.8 (9.86–23.7); P < .001; R <sup>2</sup> = 0.254	14.9 (9.12–20.7); P < .001; R <sup>2</sup> = 0.279
MOS	1.42 (0.86–1.99); P < .001; R <sup>2</sup> = 0.270	1.33 (0.72–1.94); P < .001; R <sup>2</sup> = 0.216	2.03 (1.38–2.69); P < .001; R <sup>2</sup> = 0.356	1.84 (1.27–2.42); P < .001; R <sup>2</sup> = 0.375

CS, cramped-synchronized; MOS, motor optimality score; N<A, lower number of normal than abnormal; N=A, same number of normal and abnormal; N>A, higher number of normal than abnormal; SS, scaled score.

**SUPPLEMENTAL TABLE 5** Univariable Associations Between the Early Motor Repertoire and Neurodevelopmental Outcome Presenting Unstandardized Coefficients B (Represents Change in Dependent Variable per Unit Change in Independent Variable) (95% CI) and  $R^2$  for Analyses, Excluding Children With CP: Attention

Early Motor Repertoire	Sustained Attention, $n = 74$	Selective Attention, $n = 74$
FMs: absent or normal	3.76 (0.77–6.74); $P = .014$ ; $R^2 = 0.080$	–0.46 (–3.61–2.70); $P = 0.77$ ; $R^2 = 0.001$
Observed movement patterns: N<A or N=A, N>A	4.57 (1.86–7.27); $P = .001$ ; $R^2 = 0.137$	5.93 (3.34–8.52); $P < .001$ ; $R^2 = 0.224$
Age-adequacy: absent, reduced, present	0.66 (–0.41–1.73); $P = 0.22$ ; $R^2 = 0.021$	1.26 (0.21–2.31); $P = .020$ ; $R^2 = 0.073$
Observed postural patterns: N<A or N=A, N>A	–0.27 (–2.44–1.90); $P = 0.81$ ; $R^2 = 0.001$	2.21 (0.079–4.35); $P = .042$ ; $R^2 = 0.056$
Movement character: abnormal, not CS, smooth and fluent	1.76 (–0.051–3.58); $P = 0.057$ ; $R^2 = 0.050$	2.38 (0.58–4.18); $P = .010$ ; $R^2 = 0.088$
MOS	0.27 (0.086–0.45); $P = .005$ ; $R^2 = 0.106$	0.19 (0.00–0.38); $P = .050$ ; $R^2 = 0.052$

CS, cramped-synchronized; MOS, motor optimality score; N<A, lower number of normal than abnormal; N=A, same number of normal and abnormal; N>A, higher number of normal than abnormal; SS, scaled score.

**SUPPLEMENTAL TABLE 6** Univariable Associations Between the Early Motor Repertoire and Neurodevelopmental Outcome Presenting Unstandardized Coefficients B (Represents Change in Dependent Variable per Unit Change in Independent Variable) (95% CI) and  $R^2$  for Analyses, Excluding Children With CP: Working Memory

Early Motor Repertoire	Immediate Verbal Memory, $n = 73$	Verbal Working Memory, $n = 71$
FMs: absent or normal	19.0 (2.13–35.9); $P = .028$ ; $R^2 = 0.066$	12.4 (–1.32–26.2); $P = 0.076$ ; $R^2 = 0.045$
Observed movement patterns: N<A or N=A, N>A	29.5 (13.5–45.5); $P < .001$ ; $R^2 = 0.160$	13.3 (–1.67–28.2); $P = 0.081$ ; $R^2 = 0.044$
Age-adequacy: absent, reduced, or present	10.5 (4.94–16.1); $P < .001$ ; $R^2 = 0.166$	8.26 (3.70–12.8); $P = .001$ ; $R^2 = 0.159$
Observed postural patterns: N<A or N=A, N>A	3.80 (–8.36–16.0); $P = 0.54$ ; $R^2 = 0.005$	1.99 (–8.12–12.1); $P = 0.70$ ; $R^2 = 0.002$
Movement character: abnormal, not CS, smooth and fluent	13.4 (3.27–23.5); $P = .010$ ; $R^2 = 0.089$	9.68 (1.29–18.1); $P = .024$ ; $R^2 = 0.071$
MOS	1.94 (0.95–2.93); $P < .001$ ; $R^2 = 0.177$	1.26 (0.43–2.08); $P = .003$ ; $R^2 = 0.117$

CS, cramped-synchronized; MOS, motor optimality score; N<A, lower number of normal than abnormal; N=A, same number of normal and abnormal; N>A, higher number of normal than abnormal; SS, scaled score.

**SUPPLEMENTAL TABLE 7** Univariable Associations Between the Early Motor Repertoire and Neurodevelopmental Outcome Presenting Unstandardized Coefficients B (Represents Change in Dependent Variable per Unit Change in Independent Variable) (95% CI) and  $R^2$  for Analyses, Excluding Children With CP: Executive Function

$n = 70$	Spatial Planning and Behavioral Inhibition
FMs: absent, normal	0.28 (–1.08–1.64); $P = 0.68$ ; $R^2 = 0.003$
Observed movement patterns: N<A or N=A, N>A	1.67 (0.37–2.97); $P = .013$ ; $R^2 = 0.088$
Age-adequacy: absent, reduced, or present	0.30 (–0.19–0.78); $P = 0.23$ ; $R^2 = 0.022$
Observed postural patterns: N<A or N=A, N>A	0.052 (–0.90–1.01); $P = 0.91$ ; $R^2 = 0.000$
Movement character: abnormal, not CS, smooth and fluent	0.89 (0.081–1.69); $P = .031$ ; $R^2 = 0.066$
MOS	0.058 (–0.027–0.14); $P = 0.18$ ; $R^2 = 0.027$

CS, cramped-synchronized; MOS, motor optimality score; N<A, lower number of normal than abnormal; N=A, same number of normal and abnormal; N>A, higher number of normal than abnormal; SS, scaled score.

**SUPPLEMENTAL TABLE 8** Univariable Associations Between the Early Motor Repertoire and Neurodevelopmental Outcome Presenting Unstandardized Coefficients B (Represents Change in Dependent Variable per Unit Change in Independent Variable) (95% CI) and  $R^2$  for Analyses, Excluding Children With CP: Motor

	Manual Dexterity Component SS, <i>n</i> = 72	Aiming and Catching Component SS, <i>n</i> = 73	Balance Component SS, <i>n</i> = 71	Total Test SS, <i>n</i> = 71
FMs: absent, normal	4.53 (1.51–7.55); <i>P</i> = .004; $R^2$ = 0.113	3.29 (0.80–5.78); <i>P</i> = .010; $R^2$ = 0.089	3.70 (0.38–7.02); <i>P</i> = .030; $R^2$ = 0.067	4.99 (1.77–8.21); <i>P</i> = .003; $R^2$ = 0.122
Observed movement patterns: N<A or N=A, N>A	3.65 (0.79–6.52); <i>P</i> = .013; $R^2$ = 0.084	1.21 (-1.21–3.63); <i>P</i> = 0.32; $R^2$ = 0.014	1.93 (-1.19–5.06); <i>P</i> = 0.22; $R^2$ = 0.022	2.99 (-0.085–6.07); <i>P</i> = 0.056; $R^2$ = 0.052
Age-adequacy: absent, reduced, present	2.35 (1.38–3.33); <i>P</i> < .001; $R^2$ = 0.249	1.11 (0.24–1.97); <i>P</i> = .013; $R^2$ = 0.084	2.18 (1.19–3.17); <i>P</i> < .001; $R^2$ = 0.218	2.51 (1.57–3.46); <i>P</i> < .001; $R^2$ = 0.291
Observed postural patterns: N<A or N=A, N>A	2.35 (0.11–4.58); <i>P</i> = .040; $R^2$ = 0.059	0.38 (-1.44–2.20); <i>P</i> = 0.68; $R^2$ = 0.002	0.73 (-1.61–3.07); <i>P</i> = 0.54; $R^2$ = 0.006	1.59 (-0.72–3.91); <i>P</i> = 0.17; $R^2$ = 0.027
Movement character: abnormal, not CS, smooth and fluent	4.02 (2.29–5.75); <i>P</i> < .001; $R^2$ = 0.234	2.47 (1.00–3.94); <i>P</i> = .001; $R^2$ = 0.136	3.76 (1.99–5.53); <i>P</i> < .001; $R^2$ = 0.207	4.50 (2.83–6.16); <i>P</i> < .001; $R^2$ = 0.296
MOS	0.46 (0.30–0.63); <i>P</i> < .001; $R^2$ = 0.305	0.26 (0.11–0.41); <i>P</i> = .001; $R^2$ = 0.148	0.42 (0.22–0.61); <i>P</i> < .001; $R^2$ = 0.207	0.54 (0.47–0.72); <i>P</i> < .001; $R^2$ = 0.352

CS, cramped-synchronized; MOS, motor optimality score; N<A, lower number of normal than abnormal; N=A, same number of normal and abnormal; N>A, higher number of normal than abnormal; SS, scaled score.