

## Supplementary material

### The dominant language of the KODA children studied

#### *Description of the children*

*Sign language as the dominant language:* The children produced more signs than words according to the MCDI. We also found that the length of the MLU10 in sign language was 2.1 or higher in at least one data point. **Lauri, Paula**, Ari and Heidi belonged to this group.

*Spoken language as the dominant language:* According to the MCDI the children produced more spoken words than signs at least at the age of 30 months. Additionally, their MLU10 in sign language showed hardly any development and reached the score of 1.8 at the highest. **Onni**, Miisa, Miina and Riina belonged to this group.

**Table 1** KODA children's productive vocabularies in Finnish Sign Language and spoken Finnish, measured with the MCDI. Total vocabulary includes translation equivalents.

		<b>Lauri</b>	<b>Onni</b>	<b>Paula</b>	Miisa	Miina	Heidi	Ari	Riina
12 month s	Signs	17	-	81	25	8	5	3	14
	Words	9	-	7	2	8	3	4	16
	<b>Total vocabulary</b>	<b>26</b>	<b>-</b>	<b>88</b>	<b>27</b>	<b>16</b>	<b>8</b>	<b>7</b>	<b>30</b>
18 month s	Signs	77	138	265	104	87	25	5	42
	Words	21	31	53	53	78	5	16	207
	<b>Total vocabulary</b>	<b>98</b>	<b>169</b>	<b>318</b>	<b>157</b>	<b>165</b>	<b>30</b>	<b>21</b>	<b>249</b>
24 month s	Signs	171	163	401	156	100	104	29	135
	Words	109	101	361	148	170	52	26	414
	<b>Total vocabulary</b>	<b>280</b>	<b>264</b>	<b>762</b>	<b>304</b>	<b>270</b>	<b>156</b>	<b>55</b>	<b>549</b>
30 month s	Signs	292	114	557	80	78	206	135	225
	Words	160	126	374	216	252	105	55	417
	<b>Total vocabulary</b>	<b>452</b>	<b>240</b>	<b>931</b>	<b>296</b>	<b>330</b>	<b>311</b>	<b>190</b>	<b>642</b>

- no recording obtained

**Table 2** MLU10 (mean length of 10 longest utterances) in sign language and spoken language utterances in the video-recorded play sessions.

	Sign language utterances					Spoken language utterances				
	12	18	24	30	36	12	18	24	30	36
<b>Lauri</b>	*	1	(2.3)	(1.6)	(1.7)	*	(1.4)	3.9	3.8	(5.5)
<b>Onni</b>	–	*	(1)	1.3	*	–	*	(1.4)	3	4
<b>Paula</b>	1.8	(1.2)	2.4	3.9	3.1	1	(1.3)	4.1	4.7	5.8
Miisa	1	1	1.7	1.3	(1.8)	*	1.1	2.9	4.3	2.8
Miina	1.2	1	1.7	(1.2)	1.1	*	1.1	2.4	(3.5)	4
Heidi	*	1	1.8	2.4	(2.1)	*	*	1	(1.4)	3.8
Ari	1.2	*	*	2.1	(1.5)	*	*	*	1.1	3.6
Riina	1	1.6	1.8	1.5	1.4	*	(1.2)	(4.8)	4.5	(2.4)

\* Child produced fewer than 10 utterances during the analysed 5-minute session, so the MLU10 could not be calculated

( ) Parentheses indicate that the value is calculated from signed or spoken parts of simultaneous use of these languages if the value was higher in simultaneous production than in solely signed or spoken utterances.

- no recording obtained

### Standard scores of the Reynell Developmental Language Scales test

At the age of three years, when the total scores were calculated, all the children scored within -2 SD. Five of the children (**Paula**, Miina, Miisa, Heidi and Riina) scored either at age level or within -1 SD. Three children (**Lauri**, **Onni** and Ari) scored within -2 SD either in the receptive, expressive or total score of the test. Based on these results the children were divided into two groups to evaluate the use of code-blend utterances according to competence in Finnish.

**Table 3** KODA children's standard scores on the Reynell Developmental Language Scales test.

	Paula	Lauri	Onni	Heidi	Miina	Miisa	Ari	Riina	Mean	SD
<b>Receptive skills</b>	111	79	67	86	116	86	82	110	92	18
<b>Expressive skills</b>	99	77	85	97	85	97	95	119	94	13
<b>Total score</b>	108	77	73	90	103	90	87	115	93	15

A standard score of 100 with a SD of 15 is average for a child with typical linguistic development in the Reynell Developmental Scales test. Standard scores between 85 and 115 are therefore considered to be within the broad normal range for a typically developing child.