**Appendix**

**Appendix 1**

*Overview of words in the picture book for each target vowel (in bold)*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| /i:/ | /y:/ | /e:/  | /ø:/  | /æ:/  | /ʉ:/  | /u:/  | /ɔ:/  | /α:/  |
| b**i**l (car) | l**y**s (light)  | s**e** (look)  | br**ø**d (bread)  | d**e**r (there)  | l**u**e (hat)  | b**o**k (book)  | s**o**ve (sleep)  | ban**a**n (banana)  |
| gr**i**s (pig) | fl**y** (airplane)  | skj**e** (spoon)  | sn**ø** (snow)  | h**e**r (here)  | p**u**te (pillow)  | sk**o** (shoe)  | t**o**g (train)  | b**a**de (bath)  |
| sp**i**se (eat)  | d**y**ne (duvet)  | m**e**r (more)  | d**ø**r (door)  | v**æ**re (be)  | k**u** (cow)  | f**o**t (foot)  | h**å**r (hair)  | k**a**ke (cake)  |
| sk**i**ve (slice)  | d**y**r (animal)  | n**e**se (nose)  | bj**ø**rn (bear)  | b**æ**re (carry)  | m**u**s (mouse)  | s**o**l (sun)  | m**å**ne (moon)  | m**a**ge (belly)  |
| v**i** (we)  | n**y**(new)  | l**e**se (read) | l**ø**pe (run) | skj**æ**re (cut)  | f**u**gl (bird)  | hall**o** (hello)  | g**å** (go)  | br**a** (good)  |

**Appendix 2**
*Number of phrases, mean duration (ms) and mean number of syllables in a phrase for each of the five stories across IDS and ADS registers for mothers and fathers, with standard deviations in parentheses*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Mothers ADS** |  |  |  | **Mothers IDS** |  |  |
|  |  | n | Duration | Syllables |  | n | Duration | Syllables |  |
| bear |  | 129 | 2830 (1260) | 11.4 (5.03) |  | 193 | 2430 (1280) | 9.20 (4.98) |  |
| cow |  | 165 | 2530 (1090) | 10.1 (4.81) |  | 223 | 2390 (1240) | 9.15 (5.11) |  |
| moon  |  | 147 | 2870 (1420) | 11.3 (5.68) |  | 223 | 2420 (1410) | 8.99 (5.37) |  |
| mouse  |  | 229 | 2158 (1160) | 8.17 (4.57) |  | 312 | 1960 (1200) | 7.13 (4.40) |  |
| spoon  |  | 140 | 2680 (1350) | 10.5 (5.57) |  | 194 | 2350 (1260) | 9.10 (5.33) |  |
| Mean |  | 162 (39.7) | 2560 (1280) | 10.1 (5.23) |  | 229 (48.7) | 2280 (1290) | 8.57 (5.07) |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  | **Fathers ADS** |  |  |  | **Fathers IDS** |  |  |
|  |  | n | Duration | Syllables |  | n | Duration | Syllables |  |
| bear |  | 126 | 2510 (909) | 9.48 (3.41) |  | 174 | 2250 (1050) | 8.28 (4.08) |  |
| cow |  | 151 | 2350 (977) | 9.18 (4.00) |  | 223 | 1920 (976) | 7.33 (4.05) |  |
| moon  |  | 144 | 2490 (1210) | 9.25 (4.52) |  | 230 | 1990 (1090) | 7.25 (4.50) |  |
| mouse  |  | 237 | 1700 (946) | 6.22 (3.90) |  | 334 | 1590 (899) | 5.48 (3.39) |  |
| spoon  |  | 145 | 2270 (1100) | 8.90 (4.41) |  | 191 | 2120 (1080) | 7.80 (4.59) |  |
| Mean |  | 161 (43.7) | 2220 (1080) | 8.32 (4.27) |  | 230 (62.3) | 1920 (1030) | 6.99 (4.18) |  |

**Appendix 3**
*Number of tokens, mean duration (ms) and mean formant frequencies (Hz) for each target vowel across IDS and ADS registers for mothers and fathers, with standard deviations in parentheses*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Mothers ADS** |  |  |  |  | **Mothers IDS** |  |  |  |
|  |  | n | Duration | F1 | F2 |  | n | Duration | F1 | F2 |  |
| /i:/ |  | 205 | 106 (39.4) | 398 (55.6) | 2520 (240) |  | 177 | 115 (51.5) | 382 (61.4) | 2550 (310) |  |
| /y:/ |  | 209 | 106 (27.1) | 395 (61.7) | 2500 (224) |  | 189 | 124 (40.5) | 372 (65.3) | 2570 (255) |  |
| /e:/  |  | 212 | 119 (38.2) | 683 (105) | 2060 (209) |  | 199 | 123 (44.6) | 658 (121) | 2260 (231) |  |
| /ø:/  |  | 224 | 102 (32.7) | 593 (83.8) | 1630 (136) |  | 216 | 117 (27.1) | 571 (94.7) | 1700 (173) |  |
| /æ:/  |  | 215 | 106 (37.8) | 838 (82.0) | 1610 (135) |  | 204 | 115 (45.5) | 873 (115) | 1700 (184) |  |
| /ʉ:/  |  | 216 | 111 (30.0) | 401 (52.8) | 1830 (234) |  | 214 | 125 (43.8) | 382 (58.8) | 1900 (266) |  |
| /u:/  |  | 194 | 121 (55.2) | 426 (55.8) |  890 (164) |  | 187 | 145 (64.6) | 426 (67.1) |  942 (226) |  |
| /ɔ:/  |  | 206 | 110 (33.2) | 566 (90.7) | 1060 (147) |  | 200 | 122 (54.9) | 534 (99.8) | 1040 (166) |  |
| /α:/  |  | 261 | 131 (46.5) | 792 (92.3) | 1290 (161) |  | 247 | 158 (78.0) | 800 (118) | 1310 (179) |  |
| Mean |  | 216 (18.9) | 113 (39.5) | 574 (184) | 1710 (568) |  | 204 (20.5) | 129 (56.3) | 565 (202) | 1750 (602) |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | **Fathers ADS** |  |  |  |  | **Fathers IDS** |  |  |  |
|  |  | n | Duration | F1 | F2 |  | n | Duration | F1 | F2 |  |
| /i:/ |  | 164 | 107 (38.8) | 332 (45.9) | 2070 (181) |  | 161 | 122 (47.1) | 327 (45.7) | 2080 (182) |  |
| /y:/ |  | 176 | 108 (27.0) | 322 (44.3) | 2040 (190) |  | 156 | 124 (37.6) | 330 (49.2) | 2070 (177) |  |
| /e:/  |  | 182 | 109 (35.7) | 551 (67.9) | 1760 (175) |  | 190 | 125 (41.6) | 523 (76.6) | 1850 (185) |  |
| /ø:/  |  | 185 | 100 (28.5) | 496 (56.9) | 1400 (142) |  | 198 | 109 (37.0) | 470 (70.4) | 1460 (152) |  |
| /æ:/  |  | 186 | 103 (34.7) | 676 (70.4) | 1390 (113) |  | 199 | 114 (38.9) | 715 (112) | 1450 (132) |  |
| /ʉ:/  |  | 182 | 113 (33.3) | 339 (40.9) | 1630 (168) |  | 193 | 126 (44.5) | 336 (43.8) | 1680 (175) |  |
| /u:/  |  | 153 | 169 (86.5) | 462 (89.5) |  894 (152) |  | 148 | 149 (66.5) | 358 (55.6) |  837 (177) |  |
| /ɔ:/  |  | 189 | 123 (39.9) | 379 (51.9) |  795 (136) |  | 196 | 124 (46.6) | 463 (62.3) |  897 (144) |  |
| /α:/  |  | 224 | 130 (43.7) | 640 (60.5) | 1060 (110) |  | 237 | 147 (65.8) | 644 (86.5) | 1110 (123) |  |
| Mean |  | 182 (19.5) | 111 (37.0) | 478 (140) | 1440 (458) |  | 186 (27.5) | 127 (50.1) | 477 (154) | 1470 (455) |  |

**Appendix 4**

*sessionInfo() output providing R libraries and their versions that were used in the analyses*

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**Appendix 5** *Spearman correlation matrix of acoustic measures as adaptation in IDS from ADS and parent reported percentage of speech input provided to their infant
 reported percentage of speech input provided to their infant*

**Appendix 6** *Spearman correlation matrix of acoustic measures as input in IDS and parent reported percentage of speech input provided to their infant*

**Appendix 7**

*Beta-regression estimates for vocabulary by parents’ adaptation in IDS vs. ADS (n = 44 dyads)*

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | *estimate* | *SE* | z |
| Intercept |  0.088 | 0.152  |  0.575  |
| Pitch |  0.173  | 0.217  |  0.797 |
| Pitch range | -0.143  | 0.253 | -0.567 |
| Pitch change | -0.189 | 0.211 | -0.897 |
| Articulation rate |  0.219 | 0.200 |  1.094 |
| Vowel duration |  0.528 | 0.192  |  2.755 |
| Vowel space\_corners |  0.253 | 0.209 |  1.212 |
| Vowel space\_full |  0.137 | 0.242 |  0.565 |
| Vowel variability | -0.032 | 0.203 | -0.159 |
| Vowel distinctiveness | -0.043  | 0.231 | -0.187 |

**Appendix 8**

*Beta-regression estimates for proportion looks to target by parents’ adpatation in IDS vs. ADS (n = 27 dyads)*

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | *estimate* | *SE* | z |
| Intercept |  0.004 | 0.032  |  0.130  |
| Pitch |  0.039  | 0.052  |  0.757 |
| Pitch range | -0.031  | 0.055 | -0.567 |
| Articulation rate |  0.054 | 0.039 |  1.402 |
| Vowel duration | -0.019 | 0.036  | -0.535 |
| Vowel space\_ full |  0.038 | 0.044 |  0.860 |
| Vowel variability | -0.033 | 0.048 | -0.693 |
| Vowel distinctiveness | -0.076 | 0.051 | -1.486 |

**Appendix 9**

*Beta-regression results for vocabulary by parents’ input in IDS (n = 44 dyads)*

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | *estimate* | *SE* | z |
| Intercept |  0.082 | 0.152  |  0.539  |
| Pitch  |  0.118  | 0.186  |  0.635 |
| Pitch range | -0.319  | 0.214 | -1.489 |
| Pitch change |  0.162 | 0.213 |  0.759 |
| Articulation rate |  0.305 | 0.178 |  1.718 |
| Vowel duration  |  0.316 | 0.173  |  1.828 |
| Vowel space\_full  |  0.312 | 0.180 |  1.735 |
| Vowel variability | -0.075 | 0.201 | -0.371 |

**Appendix 10**

*Beta-regression results for proportion looks to target by parents’ input in IDS (n = 27 dyads)*

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | *estimate* | *SE* | z |
| Intercept |  0.004 | 0.030  |  0.135  |
| Pitch | -0.010  | 0.038  | -0.270 |
| Pitch range | -0.001  | 0.047 | -0.115 |
| Pitch change |  0.052 | 0.048 |  1.092 |
| Articulation rate | -0.004 | 0.038 | -0.103 |
| Vowel duration  |  0.046 | 0.037  |  1.189 |
| Vowel space\_full | -0.118 | 0.045 | -2.641 |
| Vowel variability  |  0.062 | 0.047 |  1.324 |
| Vowel distinctiveness |  0.025 | 0.041 |  0.619 |