Appendix

Table A1. Features of Swabian vowels according to Ammon & Loewer (1977, pp. 39-52)

Vowel features in Swabian	Example, Standard German pronunciation (according to *Duden*)	Swabian pronunciation	English translation
/ɪ/ -> /e/	Finger, /fɪŋɐ/	/feŋɐ̯/	finger
/ʊ/ -> /o/	Hunger, /hʊŋɐ/	/hoŋɐ̯/	hunger
/ɛː/ -> /eː/	Käfig, /kɛːfɪç/	/ keːfɪg/	cage
/eː/ -> /ɛː/	Lehrer, /leːrɐ/	/lɛːrɐ̯/	teacher
Vowel shortening	Vater, /faːtɐ/	/fadɐ̯/	father
Vowel lengthening	Nacht, /naχt/	/naːχt/	night
Near-low central vowel	Mutter, /mʊtɐ/	/mʊadɐ̯/	mother
Diphtong /ɔɪ/ -> /eɪ/	Leute, /lɔɪtə/	/leɪt/	people
Missing vowels /œ/ and /ʏ/	schnöde, /ʃnœdə/ /schlürfen, /ʃlʏrfn/	/ʃneːd/, /ʃlɪɐfn/	disdainful to slurp sth

Table A2. Stimuli (frequent and infrequent words based on Schroeder, Würzner, Heister, Geyken & Kliegl, 2015)

Vowel	Frequent words	Normalized Lemma Frequency (pmw)	Infrequent words	Normalized Lemma Frequency (pmw)
/iː/	liest (reads)	215.140	Biest (beast)	8.470
	schieben (to push)	194.247	Schienen (rails)	7.152
/ɪ/	Schiff (ship)	111.052	Biss (bite)	4.329
	Lippe (lip)	108.981	Wippe (seesaw)	1.129
/eː/	beten (to pray)	12,705	kneten (to knead)	11.293
	Lehrer (teacher)	114.440	Leder (leather)	15.340
/ɛ/	Decke (blanket)	121.310	Zecke (tick)	0.753
	rennen (to run)	243.185	trennen (to separate)	22.493
/ɛː/	näher (closer)	577.470	nähen (to sew)	6.964
	Käse (cheese)	19.481	Säge (saw)	4.611
/aː/	fragen (to ask)	1,678.296	Kragen (collar)	19.669
	Bad (bath)	28.139	Pfad (path)	35.762
/a/	Hand (hand)	992.221	Pfand (gauge)	1.788
	Wanne (tub)	9.694	Tanne (fir tree)	19.763
/uː/	rufen (to call)	1,135.930	Hufe (hooves)	30.210
	Fuß (foot)	291.464	Ruß (soot)	6.117

Table A3: Summary of the mixed-effects regression model over all children with F1 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	904.051	88.408	10.226	< 0.001
Experience with regional varieties	-24.351	8.357	-2.914	< 0.01
Experience with foreign accents	-35.928	15.084	-2.382	< 0.05
Language background (biling.)	-43.465	18.395	-2.363	< 0.05
Sex (f)	40.861	11.936	3.423	< 0.01
Age	-2.481	0.635	-3.909	< 0.001
Experience with foreign accents * Language background (biling.)	41.655	16.888	2.467	< 0.05

*Formula: F1 ~ Experience with regional varieties + Experience with foreign accents * language background + sex + age + (1 | subject) + (1 + language background | vowel:item)*

Table A4: Summary of the mixed-effects regression model for monolingual children with F1 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	983.649	113.338	8.679	< 0.001
Experience with regional varieties	-23.303	9.098	-2.561	< 0.05
Age	-2.977	0.893	-3.333	< 0.01

Formula: F1 ~ Experience with regional varieties + age + (1 | subject) + (1 | vowel:item)

Table A5: Summary of the mixed-effects regression model for bilingual children with F1 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	855.590	123.820	6.910	< 0.001
Sex (f)	44.710	16.070	2.782	< 0.05
Age	-2.270	0.944	-2.404	< 0.05

Formula: F1 ~ sex + age + (1 | subject) + (1 | vowel:item)

Table A6: Summary of the mixed-effects regression model over all children with F2 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	2878.708	193.988	14.840	< 0.001
Experience with regional varieties	-20.756	21.771	-0.953	0.345
Language background (biling.)	82.629	47.977	1.722	0.089
Sex (f)	106.687	27.750	3.845	< 0.001
Age	-5.187	1.468	-3.534	< 0.001
Experience with regional varieties * Language background (biling.)	123.188	45.090	2.732	< 0.01

*Formula: F2 ~ experience with regional varieties * language background + sex + age + (1 | subject) + (1 + language background | vowel:item)*

Table A7: Summary of the mixed-effects regression model for monolingual children with F2 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	2804.412	250.200	11.209	< 0.001
Age	-4.188	2.021	-2.073	< 0.05

Formula: F2 ~ age + (1 | subject) + (1 | vowel:item)

Table A8: Summary of the mixed-effects regression model for bilingual children with F2 values (Bark) as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	2876.771	233.396	12.326	< 0.001
Experience with regional varieties	46.869	14.317	3.274	< 0.01
Sex (f)	185.441	30.252	6.130	< 0.001
Age	-5.567	1.760	-3.164	< 0.01

Formula: F2 ~ experience with regional varieties + sex + age + (1 | subject) + (1 | vowel:item)

Table A9: Summary of the mixed-effects regression model over all children with relative vowel duration as outcome variable

	β	*SE*	*t*	*p*
(Intercept)	1.402	0.267	5.244	< 0.001
Lexical frequency	-0.110	0.103	-1.065	0.303
Vowel /a/	0.035	0.075	0.459	0.653
Vowel /aː/	0.034	0.078	0.433	0.671
Vowel /ɛ/	0.026	0.089	0.297	0.771
Vowel /eː/	-0.345	0.202	-1.711	0.106
Vowel /ɪ/	0.108	0.152	0.711	0.487
Vowel /iː/	0.043	0.107	0.404	0.692
Vowel /uː/	0.068	0.079	0.865	0.400
Age	-0.004	0.002	-1.665	0.102
Sex (f)	-0.046	0.021	-2.177	< 0.05
Lexical frequency * Vowel /a/	0.092	0.115	0.804	0.433
Lexical frequency * Vowel /aː/	0.102	0.108	0.947	0.358
Lexical frequency * Vowel /ɛ/	0.104	0.245	0.426	0.676
Lexical frequency * Vowel /eː/	-0.852	0.497	-1.715	0.106
Lexical frequency * Vowel /ɪ/	0.333	0.410	0.812	0.429
Lexical frequency * Vowel /iː/	0.140	0.263	0.531	0.603
Lexical frequency * Vowel /uː/	0.044	0.114	0.385	0.706

*Formula: relative_duration ~ frequency * vowel + sex + age + (1 | subject) + (1 |item)*

References

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