

Supplementary materials to ‘Inuktitut and the concept of word-level prominence’

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Overview

These supplementary materials present detailed results of statistical modelling described in the following book chapter:

Arnhold, A., Elfner, E., & Compton, R. (to appear). Inuktitut and the concept of word-level prominence. In K. Bogomolets & H. van der Hulst (Eds.), *Word prominence in languages with complex morphology*. Oxford University Press, pages TBD, doi: TBD.

The present document is divided into sections for the three acoustic measures evaluated, i.e. duration, fundamental frequency and intensity, which are in turn each divided into sections for the dialogues data set and the single-word utterance data. Each subsection presents the summary table of fixed effects in the best linear-mixed effects model of the respective measure, as well as results of pairwise comparisons based on this model. Tables with pairwise comparisons only show significant differences, listed in the order in which they are discussed in the book chapter.

1 Duration

1.1 Duration: Dialogues

Table S1: Model summary of fixed effects for best linear mixed-effects model of syllable duration (in ms) in dialogues data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	325.67	14.51	31.07	22.44	0.00
VC rhyme	53.41	3.53	1060.98	15.13	0.00
VV rhyme	96.64	4.22	1071.64	22.90	0.00
VVC rhyme	117.69	5.02	1070.06	23.47	0.00
Syl. position 2	-54.96	4.04	1036.82	-13.61	0.00
Syl. position 3	-79.18	4.42	1069.00	-17.93	0.00
Syl. position 4	-97.79	5.13	1071.64	-19.05	0.00
Syl. position 5	-99.62	6.23	1071.22	-16.00	0.00
Syl. position 6	-108.91	7.57	1070.28	-14.39	0.00
Syl. position 7	-126.44	10.32	1070.74	-12.26	0.00
Syl. position 8	-133.53	14.22	1071.49	-9.39	0.00
Word length 2 syl.	-119.29	13.82	1045.23	-8.63	0.00
Word length 3 syl.	-127.69	13.59	1067.24	-9.40	0.00
Word length 4 syl.	-130.81	13.68	1062.95	-9.56	0.00
Word length 5 syl.	-129.58	14.01	1068.42	-9.25	0.00
Word length 6 syl.	-130.71	14.05	1067.36	-9.31	0.00
Word length 7 syl.	-129.57	14.48	1066.70	-8.95	0.00
Word length 8 syl.	-127.86	14.66	1062.42	-8.72	0.00
Word length 9 syl.	-117.61	17.76	1068.75	-6.62	0.00
IP-medial	6.20	5.03	1071.88	1.23	0.22
IP-final	37.85	4.04	1070.76	9.37	0.00
IP only word	38.24	4.20	1072.46	9.10	0.00

Table S2: Pairwise comparisons of syllable duration (in ms) between syllable positions (counted from the end of the word) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2	54.962	4.076	1036	13.483	<.0001
Syl. position 1 vs. 3	79.1801	4.435	1069	17.853	<.0001
Syl. position 1 vs. 4	97.787	5.139	1072	19.030	<.0001
Syl. position 1 vs. 5	99.624	6.232	1071	15.985	<.0001
Syl. position 1 vs. 6	108.908	7.568	1070	14.390	<.0001
Syl. position 1 vs. 7	126.439	10.32	1071	12.252	<.0001
Syl. position 1 vs. 8	133.525	14.234	1072	9.381	<.0001
Syl. position 2 vs. 3	24.218	4.324	1072	5.601	<.0001
Syl. position 2 vs. 4	42.825	5.091	1072	8.412	<.0001
Syl. position 2 vs. 5	44.662	6.211	1072	7.191	<.0001
Syl. position 2 vs. 6	53.945	7.586	1071	7.111	<.0001
Syl. position 2 vs. 7	71.477	10.325	1072	6.923	<.0001
Syl. position 2 vs. 8	78.563	14.241	1072	5.517	<.0001
Syl. position 3 vs. 4	18.606	5.151	1071	3.612	0.0076
Syl. position 3 vs. 5	20.443	6.264	1071	3.264	0.0250
Syl. position 3 vs. 6	29.727	7.607	1072	3.908	0.0025
Syl. position 3 vs. 7	47.258	10.323	1071	4.578	0.0001
Syl. position 3 vs. 8	54.344	14.237	1072	3.817	0.0036

Table S3: Pairwise comparisons of syllable duration between word lengths (counted in number of syllables) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
1 vs. 2 syllables	119.286	13.950	1045	8.551	<.0001
1 vs. 3 syllables	127.694	13.663	1067	9.346	<.0001
1 vs. 4 syllables	130.814	13.768	1063	9.502	<.0001
1 vs. 5 syllables	129.582	14.089	1068	9.197	<.0001
1 vs. 6 syllables	130.712	14.118	1067	9.258	<.0001
1 vs. 7 syllables	129.570	14.556	1067	8.901	<.0001
1 vs. 8 syllables	127.86	14.752	1062	8.667	<.0001
1 vs. 9 syllables	117.611	17.845	1069	6.591	<.0001

Table S4: Pairwise comparisons of syllable duration between syllable rhyme types in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
V vs. VC	-53.408	3.554	1061	-15.028	<.0001
V vs. VV	-96.642	4.232	1072	-22.838	<.0001
V vs. VVC	-117.695	5.034	1070	-23.381	<.0001
VC vs. VV	-43.234	4.793	1037	-9.021	<.0001
VC vs. VVC	-64.287	5.544	1042	-11.596	<.0001
VV vs. VVC	-21.053	5.842	1071	-3.604	0.0019

Table S5: Pairwise comparisons of syllable duration between different positions of a word in an intonational phrase in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Initial vs. final	-37.853	4.04	1071	-9.370	<.0001
Initial vs. only	-38.24	4.212	1073	-9.078	<.0001
Medial vs. final	-31.653	4.823	1071	-6.564	<.0001
Medial vs. only	-32.04	4.982	1073	-6.431	<.0001

1.2 Duration: Single-word utterances

Table S6: Model summary of fixed effects for best linear mixed-effects model of syllable duration (in ms) in single-word data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	350.89	12.90	657.99	27.19	0.00
VC rhyme	78.14	5.95	1066.12	13.14	0.00
VV rhyme	148.26	9.76	1226.34	15.19	0.00
VVC rhyme	194.50	6.99	1226.53	27.83	0.00
Syl. position 2	-113.03	5.99	1185.18	-18.87	0.00
Syl. position 3	-138.61	6.24	1229.18	-22.22	0.00
Syl. position 4	-136.97	6.82	1229.11	-20.10	0.00
Syl. position 5	-148.93	7.61	1229.44	-19.57	0.00
Syl. position 6	-117.22	10.40	1229.57	-11.27	0.00
Word length 2 syl.	-52.72	11.69	1228.33	-4.51	0.00
Word length 3 syl.	-55.26	11.68	1228.66	-4.73	0.00
Word length 4 syl.	-56.76	11.92	1229.50	-4.76	0.00
Word length 5 syl.	-60.12	12.02	1229.62	-5.00	0.00
Word length 6 syl.	-59.78	12.68	1229.69	-4.72	0.00
Word length 7 syl.	-64.63	12.89	1229.76	-5.02	0.00
Word length 8 syl.	-65.13	13.01	1229.01	-5.01	0.00
Word length 9 syl.	-83.22	16.51	1229.98	-5.04	0.00
VC rhyme : Syl. position 2	10.35	7.83	1003.36	1.32	0.19
VV rhyme : Syl. position 2	-44.50	11.88	1213.95	-3.75	0.00
VVC rhyme : Syl. position 2	-31.14	8.97	1223.25	-3.47	0.00
VC rhyme : Syl. position 3	10.79	8.97	1205.21	1.20	0.23
VV rhyme : Syl. position 3	-46.52	11.27	1229.92	-4.13	0.00
VVC rhyme : Syl. position 3	-60.72	10.17	1229.84	-5.97	0.00
VC rhyme : Syl. position 4	-1.02	16.09	1212.67	-0.06	0.95
VV rhyme : Syl. position 4	-60.02	12.15	1228.46	-4.94	0.00
VVC rhyme : Syl. position 4	-41.22	15.91	1229.93	-2.59	0.01
VC rhyme : Syl. position 5	-27.34	15.98	1225.01	-1.71	0.09
VV rhyme : Syl. position 5	-68.73	16.60	1229.99	-4.14	0.00
VVC rhyme : Syl. position 5	-76.69	15.17	1229.83	-5.05	0.00
VC rhyme : Syl. position 6	-70.23	29.45	1228.73	-2.38	0.02
VV rhyme : Syl. position 6	-98.91	19.29	1223.15	-5.13	0.00
VVC rhyme : Syl. position 6	-61.82	22.92	1229.79	-2.70	0.01

Table S7: Pairwise comparisons of syllable duration between word lengths (counted in number of syllables) in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
1 vs. 2 syllables	52.719	11.696	1228	4.508	0.0002
1 vs. 3 syllables	55.256	11.679	1229	4.731	0.0001
1 vs. 4 syllables	56.758	11.93	1230	4.758	0.0001
1 vs. 5 syllables	60.118	12.034	1230	4.996	<.0001
1 vs. 6 syllables	59.782	12.691	1230	4.710	0.0001
1 vs. 7 syllables	64.633	12.915	1230	5.004	<.0001
1 vs. 8 syllables	65.126	13.049	1229	4.991	<.0001
1 vs. 9 syllables	83.215	16.539	1230	5.031	<.0001

Table S8: Pairwise comparisons of syllable duration between syllable positions (counted from the end of the word) by rhyme types in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2 for V	113.026	6.046	1182	18.693	<.0001
Syl. position 1 vs. 3 for V	138.612	6.244	1229	22.204	<.0001
Syl. position 1 vs. 4 for V	136.967	6.834	1229	20.042	<.0001
Syl. position 1 vs. 5 for V	148.928	7.614	1229	19.561	<.0001
Syl. position 1 vs. 6 for V	117.221	10.407	1230	11.263	<.0001
Syl. position 1 vs. 2 for VC	102.676	4.887	1128	21.011	<.0001
Syl. position 1 vs. 3 for VC	127.824	6.48	1181	19.726	<.0001
Syl. position 1 vs. 4 for VC	137.988	14.573	1217	9.469	<.0001
Syl. position 1 vs. 5 for VC	176.271	14.277	1226	12.347	<.0001
Syl. position 1 vs. 6 for VC	187.451	27.793	1229	6.745	<.0001
Syl. position 1 vs. 2 for VV	157.529	10.231	1230	15.397	<.0001
Syl. position 1 vs. 3 for VV	185.134	9.524	1230	19.439	<.0001
Syl. position 1 vs. 4 for VV	196.986	10.422	1230	18.901	<.0001
Syl. position 1 vs. 5 for VV	217.654	15.058	1230	14.455	<.0001
Syl. position 1 vs. 6 for VV	216.130	16.676	1226	12.961	<.0001
Syl. position 1 vs. 2 for VVC	144.164	6.63	1229	21.743	<.0001
Syl. position 1 vs. 3 for VVC	199.334	8.146	1230	24.471	<.0001
Syl. position 1 vs. 4 for VVC	178.185	14.564	1229	12.234	<.0001
Syl. position 1 vs. 5 for VVC	225.615	13.382	1230	16.86	<.0001
Syl. position 1 vs. 6 for VVC	179.042	20.651	1229	8.67	<.0001
Syl. position 2 vs. 3 for V	25.586	4.779	1192	5.354	<.0001
Syl. position 2 vs. 4 for V	23.941	5.599	1207	4.276	0.0047
Syl. position 2 vs. 5 for V	35.902	6.632	1226	5.413	<.0001
Syl. position 2 vs. 5 for VC	73.595	14.488	1230	5.08	0.0001
Syl. position 2 vs. 4 for VV	39.457	8.682	1230	4.544	0.0015
Syl. position 2 vs. 5 for VV	60.125	13.958	1229	4.307	0.0041
Syl. position 2 vs. 6 for VV	58.602	15.631	1230	3.749	0.0353
Syl. position 2 vs. 3 for VVC	55.171	8.212	1230	6.718	<.0001
Syl. position 2 vs. 5 for VVC	81.451	13.359	1229	6.097	<.0001

Table S9: Pairwise comparisons of syllable duration between rhyme types by syllable positions (counted from the end of the word) in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
V vs. VC in syl. position 1	-78.145	6.052	1057	-12.912	<.0001
V vs. VV in syl. position 1	-148.263	9.799	1226	-15.13	<.0001
V vs. VVC in syl. position 1	-194.504	7.015	1226	-27.728	<.0001
VC vs. VV in syl. position 1	-70.118	8.687	1229	-8.072	<.0001
VC vs. VVC in syl. position 1	-116.359	5.458	1223	-21.318	<.0001
VV vs. VVC in syl. position 1	-46.241	9.083	1230	-5.091	0.0001
V vs. VC in syl. position 2	-88.495	5.066	1206	-17.467	<.0001
V vs. VV in syl. position 2	-103.76	6.907	1230	-15.022	<.0001
V vs. VVC in syl. position 2	-163.366	5.682	1230	-28.753	<.0001
VC vs. VVC in syl. position 2	-74.871	6.161	1230	-12.152	<.0001
VV vs. VVC in syl. position 2	-59.607	7.698	1229	-7.743	<.0001
V vs. VC in syl. position 3	-88.933	6.727	1230	-13.221	<.0001
V vs. VV in syl. position 3	-101.74	5.699	1230	-17.853	<.0001
V vs. VVC in syl. position 3	-133.781	7.451	1229	-17.955	<.0001
VC vs. VVC in syl. position 3	-44.849	8.706	1230	-5.152	0.0001
VV vs. VVC in syl. position 3	-32.041	7.956	1229	-4.027	0.0128
V vs. VC in syl. position 4	-77.124	14.725	1230	-5.238	0.0001
V vs. VV in syl. position 4	-88.244	7.253	1229	-12.167	<.0001
V vs. VVC in syl. position 4	-153.286	14.346	1230	-10.685	<.0001
VC vs. VVC in syl. position 4	-76.162	19.625	1229	-3.881	0.0221
VV vs. VVC in syl. position 4	-65.042	14.854	1229	-4.379	0.0031
V vs. VVC in syl. position 5	-117.817	13.46	1228	-8.753	<.0001
VC vs. VVC in syl. position 5	-67.016	18.288	1228	-3.664	0.047
V vs. VV in syl. position 5	-79.537	13.462	1228	-5.908	<.0001
V vs. VVC in syl. position 6	-132.683	21.715	1229	-6.11	<.0001
VC vs. VVC in syl. position 6	-124.768	34.155	1230	-3.653	0.0488

2 Fundamental frequency

2.1 Fundamental frequency: Dialogues

Table S10: Model summary of fixed effects for best linear mixed-effects model of fundamental frequency (in st re 100 Hz) in dialogues data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	9.43	3.49	1.11	2.70	0.21
VC rhyme	-0.74	0.36	1055.00	-2.02	0.04
VV rhyme	1.68	0.54	1055.00	3.13	0.00
VVC rhyme	3.94	0.55	1055.00	7.20	0.00
Syl. position 2	2.45	0.27	1055.00	9.01	0.00
Syl. position 3	4.60	0.31	1055.00	14.76	0.00
Syl. position 4	4.60	0.35	1055.00	13.12	0.00
Syl. position 5	5.95	0.42	1055.00	14.33	0.00
Syl. position 6	6.21	0.53	1055.00	11.63	0.00
Syl. position 7	6.40	0.74	1055.00	8.64	0.00
Syl. position 8	4.68	1.72	1055.00	2.72	0.01
Word length 2 syl.	-0.47	0.78	1055.00	-0.60	0.55
Word length 3 syl.	-0.32	0.78	1055.00	-0.41	0.68
Word length 4 syl.	-0.91	0.78	1055.00	-1.16	0.25
Word length 5 syl.	-1.45	0.80	1055.00	-1.81	0.07
Word length 6 syl.	-1.54	0.81	1055.00	-1.92	0.06
Word length 7 syl.	-3.05	0.83	1055.00	-3.66	0.00
Word length 8 syl.	-2.79	0.83	1055.00	-3.35	0.00
Word length 9 syl.	-2.53	1.01	1055.00	-2.49	0.01
IP-medial	0.76	0.26	1055.00	2.93	0.00
IP-final	0.08	0.21	1055.00	0.37	0.71
IP only word	-0.46	0.22	1055.01	-2.12	0.03
VC rhyme : Syl. position 2	1.48	0.51	1055.00	2.92	0.00
VV rhyme : Syl. position 2	0.73	0.71	1055.00	1.02	0.31
VVC rhyme : Syl. position 2	-3.26	0.69	1055.00	-4.69	0.00
VC rhyme : Syl. position 3	0.28	0.54	1055.00	0.52	0.60
VV rhyme : Syl. position 3	-0.93	0.69	1055.00	-1.35	0.18
VVC rhyme : Syl. position 3	-3.87	0.82	1055.00	-4.71	0.00
VC rhyme : Syl. position 4	1.78	0.65	1055.00	2.74	0.01
VV rhyme : Syl. position 4	-0.93	0.75	1055.00	-1.23	0.22
VVC rhyme : Syl. position 4	-3.03	0.88	1055.00	-3.43	0.00
VC rhyme : Syl. position 5	0.19	0.73	1055.00	0.25	0.80
VV rhyme : Syl. position 5	-1.84	0.95	1055.00	-1.94	0.05
VVC rhyme : Syl. position 5	-4.89	1.38	1055.00	-3.56	0.00
VC rhyme : Syl. position 6	0.18	0.85	1055.00	0.21	0.84
VV rhyme : Syl. position 6	-2.37	1.02	1055.00	-2.32	0.02
VVC rhyme : Syl. position 6	-4.90	2.50	1055.00	-1.96	0.05
VC rhyme : Syl. position 7	0.78	1.32	1055.00	0.59	0.56
VV rhyme : Syl. position 7	-2.21	1.25	1055.00	-1.76	0.08
VVC rhyme : Syl. position 7	-4.63	2.55	1055.00	-1.82	0.07
VC rhyme : Syl. position 8	1.98	2.03	1055.00	0.98	0.33
VV rhyme : Syl. position 8	0.89	2.16	1055.00	0.41	0.68
VVC rhyme : Syl. position 8	-1.69	2.44	1055.00	-0.69	0.49

Table S11: Pairwise comparisons of fundamental frequency (in st re 100Hz) between rhyme types by syllable positions (counted from the end of the word) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
V vs. VVC in syl. position 1	-3.94	0.548	1055	-7.197	<.0001
VC vs. VVC in syl. position 1	-4.677	0.606	1055	-7.712	<.0001
VC vs. VV in syl. position 1	-2.416	0.595	1055	-4.059	0.0191
V vs. VV in syl. position 2	-2.407	0.472	1055	-5.098	0.0002

Table S12: Pairwise comparisons of fundamental frequency (in st re 100Hz) between syllable positions (counted from the end of the word) by rhyme types in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2 for V	-2.447	0.272	1055	-9.006	<.0001
Syl. position 1 vs. 3 for V	-4.6	0.312	1055	-14.762	<.0001
Syl. position 1 vs. 4 for V	-4.6	0.351	1055	-13.121	<.0001
Syl. position 1 vs. 5 for V	-5.948	0.415	1055	-14.325	<.0001
Syl. position 1 vs. 6 for V	-6.211	0.534	1055	-11.628	<.0001
Syl. position 1 vs. 7 for V	-6.405	0.741	1055	-8.643	<.0001
Syl. position 1 vs. 2 for VC	-3.93	0.429	1055	-9.166	<.0001
Syl. position 1 vs. 3 for VC	-4.884	0.444	1055	-11.008	<.0001
Syl. position 1 vs. 4 for VC	-6.383	0.559	1055	-11.434	<.0001
Syl. position 1 vs. 5 for VC	-6.134	0.623	1055	-9.85	<.0001
Syl. position 1 vs. 6 for VC	-6.387	0.693	1055	-9.219	<.0001
Syl. position 1 vs. 7 for VC	-7.181	1.139	1055	-6.305	<.0001
Syl. position 1 vs. 8 for VC	-6.66	1.153	1055	-5.776	<.0001
Syl. position 1 vs. 2 for VV	-3.175	0.657	1055	-4.833	0.0007
Syl. position 1 vs. 3 for VV	-3.667	0.623	1055	-5.887	<.0001
Syl. position 1 vs. 4 for VV	-3.67	0.683	1055	-5.37	<.0001
Syl. position 1 vs. 5 for VV	-4.109	0.875	1055	-4.698	0.0013
Syl. position 1 vs. 6 for VV	-3.842	0.902	1055	-4.262	0.0086
Syl. position 1 vs. 7 for VV	-4.197	1.06	1055	-3.961	0.0275
Syl. position 1 vs. 8 for VV	-5.567	1.349	1055	-4.127	0.0147
Syl. position 2 vs. 3 for V	-2.153	0.323	1055	-6.673	<.0001
Syl. position 2 vs. 4 for V	-2.153	0.359	1055	-6	<.0001
Syl. position 2 vs. 5 for V	-3.502	0.42	1055	-8.333	<.0001
Syl. position 2 vs. 6 for V	-3.765	0.538	1055	-7.005	<.0001
Syl. position 2 vs. 7 for V	-3.958	0.743	1055	-5.33	0.0001
Syl. position 2 vs. 4 for VC	-2.453	0.552	1055	-4.447	0.004

Table S13: Pairwise comparisons of fundamental frequency (in st re 100Hz) between word lengths (counted in number of syllables) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
1 vs. 7 syllables	3.0453	0.832	1055	3.661	0.0081
1 vs. 8 syllables	2.792	0.834	1055	3.346	0.0239
4 vs. 7 syllables	2.14	0.336	1055	6.363	<.0001
4 vs. 8 syllables	1.887	0.351	1055	5.384	<.0001
5 vs. 7 syllables	1.594	0.346	1055	4.605	0.0002
5 vs. 8 syllables	1.340	0.358	1055	3.744	0.0059
6 vs. 7 syllables	1.501	0.336	1055	4.470	0.0003
6 vs. 8 syllables	1.248	0.35	1055	3.565	0.0114
2 vs. 6 syllables	1.074	0.333	1055	3.223	0.0353
2 vs. 7 syllables	2.574	0.389	1055	6.624	<.0001
2 vs. 8 syllables	2.321	0.399	1055	5.823	<.0001
3 vs. 5 syllables	1.131	0.268	1055	4.214	0.0009
3 vs. 6 syllables	1.224	0.283	1055	4.332	0.0005
3 vs. 7 syllables	2.724	0.345	1055	7.891	<.0001
3 vs. 8 syllables	2.471	0.358	1055	6.899	<.0001
3 vs. 9 syllables	2.209	0.689	1055	3.206	0.0372

Table S14: Pairwise comparisons of fundamental frequency (in st re 100Hz) between different positions of a word in an intonational phrase in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Initial vs. medial	-0.762	0.26	1055	-2.928	0.0183
Medial vs. final	0.684	0.25	1055	2.734	0.0323
Medial vs. only	1.222	0.259	1055	4.724	<.0001
Final vs. only	0.538	0.188	1055	2.865	0.0221

2.2 Fundamental frequency: Single-word utterances

Table S15: Model summary of fixed effects for best linear mixed-effects model of fundamental frequency (in st re 100 Hz) in single-word data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	13.49	0.47	423.61	28.61	0.00
VC rhyme	-0.16	0.22	1136.54	-0.75	0.45
VV rhyme	0.65	0.37	1235.24	1.74	0.08
VVC rhyme	0.77	0.25	1234.84	3.02	0.00
Syl. position 2	3.44	0.22	1216.87	15.50	0.00
Syl. position 3	4.48	0.23	1234.81	19.46	0.00
Syl. position 4	4.79	0.25	1235.95	19.06	0.00
Syl. position 5	5.24	0.28	1235.16	18.60	0.00
Syl. position 6	5.52	0.39	1235.26	14.33	0.00
Word length 2 syl.	-2.70	0.42	1234.11	-6.40	0.00
Word length 3 syl.	-4.09	0.42	1234.83	-9.72	0.00
Word length 4 syl.	-4.28	0.43	1235.57	-9.93	0.00
Word length 5 syl.	-4.85	0.43	1235.68	-11.16	0.00
Word length 6 syl.	-4.69	0.46	1235.74	-10.21	0.00
Word length 7 syl.	-4.77	0.47	1235.85	-10.23	0.00
Word length 8 syl.	-5.02	0.47	1235.73	-10.67	0.00
Word length 9 syl.	-5.34	0.60	1236.00	-8.84	0.00
VC rhyme : Syl. position 2	-0.09	0.29	1107.52	-0.30	0.76
VV rhyme : Syl. position 2	-1.10	0.45	1229.09	-2.46	0.01
VVC rhyme : Syl. position 2	-1.07	0.33	1233.23	-3.25	0.00
VC rhyme : Syl. position 3	0.76	0.33	1222.29	2.29	0.02
VV rhyme : Syl. position 3	-0.61	0.43	1235.67	-1.42	0.16
VVC rhyme : Syl. position 3	-0.92	0.37	1236.00	-2.46	0.01
VC rhyme : Syl. position 4	0.07	0.60	1228.97	0.12	0.90
VV rhyme : Syl. position 4	-0.07	0.46	1235.86	-0.16	0.87
VVC rhyme : Syl. position 4	-1.83	0.59	1235.90	-3.11	0.00
VC rhyme : Syl. position 5	0.47	0.59	1234.11	0.80	0.43
VV rhyme : Syl. position 5	-0.81	0.62	1235.77	-1.30	0.19
VVC rhyme : Syl. position 5	-1.43	0.56	1235.51	-2.55	0.01
VC rhyme : Syl. position 6	0.32	1.09	1234.43	0.29	0.77
VV rhyme : Syl. position 6	-0.40	0.72	1233.88	-0.55	0.58
VVC rhyme : Syl. position 6	-1.55	0.85	1235.45	-1.83	0.07

Table S16: Pairwise comparisons of fundamental frequency (in st re 100Hz) between syllable positions (counted from the end of the word) by rhyme types in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2 for V	-3.437	0.223	1217	-15.401	<.0001
Syl. position 1 vs. 3 for V	-4.484	0.231	1235	-19.448	<.0001
Syl. position 1 vs. 4 for V	-4.786	0.252	1236	-19.02	<.0001
Syl. position 1 vs. 5 for V	-5.236	0.282	1235	-18.587	<.0001
Syl. position 1 vs. 6 for V	-5.522	0.386	1235	-14.322	<.0001
Syl. position 1 vs. 2 for VC	-3.349	0.186	1183	-18.004	<.0001
Syl. position 1 vs. 3 for VC	-5.243	0.239	1207	-21.986	<.0001
Syl. position 1 vs. 4 for VC	-4.859	0.54	1232	-8.996	<.0001
Syl. position 1 vs. 5 for VC	-5.707	0.529	1235	-10.783	<.0001
Syl. position 1 vs. 6 for VC	-5.844	1.032	1235	-5.665	<.0001
Syl. position 1 vs. 2 for VV	-2.338	0.387	1236	-6.047	<.0001
Syl. position 1 vs. 3 for VV	-3.877	0.364	1235	-10.655	<.0001
Syl. position 1 vs. 4 for VV	-4.712	0.396	1236	-11.913	<.0001
Syl. position 1 vs. 5 for VV	-4.427	0.565	1235	-7.837	<.0001
Syl. position 1 vs. 6 for VV	-5.126	0.624	1235	-8.214	<.0001
Syl. position 1 vs. 2 for VVC	-2.369	0.242	1235	-9.796	<.0001
Syl. position 1 vs. 3 for VVC	-3.561	0.3	1236	-11.874	<.0001
Syl. position 1 vs. 4 for VVC	-2.954	0.539	1235	-5.482	<.0001
Syl. position 1 vs. 5 for VVC	-3.808	0.495	1235	-7.699	<.0001
Syl. position 1 vs. 6 for VVC	-3.97	0.764	1235	-5.196	0.0001
Syl. position 2 vs. 3 for V	-1.046	0.178	122	-5.893	<.0001
Syl. position 2 vs. 4 for V	-1.349	0.207	1228	-6.508	<.0001
Syl. position 2 vs. 5 for V	-1.799	0.246	1235	-7.306	<.0001
Syl. position 2 vs. 6 for V	-2.084	0.361	1235	-5.776	<.0001
Syl. position 2 vs. 3 for VV	-1.54	0.281	1235	-5.475	<.0001
Syl. position 2 vs. 4 for VV	-2.375	0.317	1235	-7.484	<.0001
Syl. position 2 vs. 5 for VV	-2.089	0.514	1234	-4.063	0.0111
Syl. position 2 vs. 6 for VV	-2.788	0.577	1236	-4.832	0.0004
Syl. position 2 vs. 3 for VC	-1.894	0.261	1234	-7.247	<.0001
Syl. position 2 vs. 5 for VC	-2.358	0.539	1235	-4.375	0.0031
Syl. position 2 vs. 3 for VVC	-1.192	0.304	1235	-3.921	0.019

Table S17: Pairwise comparisons of fundamental frequency (in st re 100 Hz) between word lengths (counted in number of syllables) in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
1 vs. 2 syllables	2.697	0.422	1234	6.395	<.0001
1 vs. 3 syllables	4.088	0.421	1235	9.713	<.0001
1 vs. 4 syllables	4.276	0.431	1236	9.923	<.0001
1 vs. 5 syllables	4.846	0.435	1236	11.151	<.0001
1 vs. 6 syllables	4.69	0.46	1236	10.198	<.0001
1 vs. 7 syllables	4.774	0.468	1236	10.209	<.0001
1 vs. 8 syllables	5.02	0.472	1236	10.643	<.0001
1 vs. 9 syllables	5.342	0.605	1236	8.826	<.0001
2 vs. 3 syllables	1.392	0.135	1236	10.321	<.0001
2 vs. 4 syllables	1.579	0.153	1229	10.326	<.0001
2 vs. 5 syllables	2.149	0.161	1227	13.313	<.0001
2 vs. 6 syllables	1.993	0.222	1233	8.987	<.0001
2 vs. 7 syllables	2.077	0.238	1216	8.737	<.0001
2 vs. 8 syllables	2.323	0.246	1209	9.445	<.0001
2 vs. 9 syllables	2.645	0.451	1235	5.862	<.0001
3 vs. 5 syllables	0.758	0.133	1236	5.697	<.0001
3 vs. 7 syllables	0.685	0.218	1233	3.150	0.0440
3 vs. 8 syllables	0.931	0.227	1229	4.102	0.0014
4 vs. 5 syllables	0.57	0.14	1234	4.060	0.0017
4 vs. 8 syllables	0.744	0.231	1233	3.221	0.0354

3 Intensity

3.1 Intensity: Dialogues

Table S18: Model summary of fixed effects for best linear mixed-effects model of mean vowel intensity (in dB) in dialogues data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	73.67	0.71	36.92	104.07	0.00
VC rhyme	-0.15	0.30	1054.02	-0.49	0.62
VV rhyme	0.76	0.45	1054.10	1.69	0.09
VVC rhyme	2.41	0.46	1054.19	5.28	0.00
Syl. position 2	1.80	0.23	1054.13	7.89	0.00
Syl. position 3	2.04	0.26	1054.00	7.82	0.00
Syl. position 4	2.00	0.29	1054.00	6.84	0.00
Syl. position 5	2.97	0.35	1054.04	8.54	0.00
Syl. position 6	3.31	0.45	1054.05	7.43	0.00
Syl. position 7	2.52	0.62	1054.00	4.10	0.00
Syl. position 8	1.83	1.43	1054.00	1.28	0.20
Word length 2 syl.	-0.23	0.65	1054.28	-0.36	0.72
Word length 3 syl.	-0.52	0.64	1054.11	-0.80	0.42
Word length 4 syl.	-0.29	0.65	1054.12	-0.44	0.66
Word length 5 syl.	-0.88	0.66	1054.37	-1.32	0.19
Word length 6 syl.	-0.78	0.67	1054.06	-1.17	0.24
Word length 7 syl.	-2.27	0.69	1054.02	-3.29	0.00
Word length 8 syl.	-1.46	0.69	1054.15	-2.12	0.03
Word length 9 syl.	-1.98	0.83	1054.14	-2.39	0.02
IP-medial	-0.13	0.22	1054.12	-0.60	0.55
IP-final	-1.55	0.17	1054.05	-8.89	0.00
IP only word	-1.08	0.18	1054.51	-6.02	0.00
VC rhyme : Syl. position 2	0.02	0.42	1054.05	0.05	0.96
VV rhyme : Syl. position 2	-0.06	0.59	1054.02	-0.11	0.91
VVC rhyme : Syl. position 2	-2.24	0.58	1054.44	-3.87	0.00
VC rhyme : Syl. position 3	-0.79	0.44	1054.01	-1.78	0.07
VV rhyme : Syl. position 3	0.21	0.57	1054.19	0.36	0.72
VVC rhyme : Syl. position 3	-1.56	0.68	1054.09	-2.29	0.02
VC rhyme : Syl. position 4	0.60	0.54	1054.02	1.12	0.26
VV rhyme : Syl. position 4	0.32	0.63	1054.01	0.52	0.60
VVC rhyme : Syl. position 4	-0.51	0.73	1054.01	-0.70	0.48
VC rhyme : Syl. position 5	-0.04	0.61	1054.02	-0.06	0.95
VV rhyme : Syl. position 5	-0.43	0.77	1054.05	-0.56	0.58
VVC rhyme : Syl. position 5	-1.54	1.14	1054.16	-1.35	0.18
VC rhyme : Syl. position 6	-1.02	0.71	1054.02	-1.42	0.15
VV rhyme : Syl. position 6	-0.05	0.85	1054.33	-0.05	0.96
VVC rhyme : Syl. position 6	-0.56	2.07	1054.10	-0.27	0.79
VC rhyme : Syl. position 7	0.14	1.04	1054.02	0.13	0.89
VV rhyme : Syl. position 7	1.41	1.04	1054.04	1.36	0.18
VVC rhyme : Syl. position 7	0.65	2.11	1054.08	0.31	0.76
VC rhyme : Syl. position 8	-1.87	1.68	1054.07	-1.12	0.26
VV rhyme : Syl. position 8	2.70	1.79	1054.01	1.51	0.13
VVC rhyme : Syl. position 8	0.19	2.03	1054.16	0.09	0.93

Table S19: Pairwise comparisons of mean vowel intensity (in dB) between syllable positions (counted from the end of the word) by rhyme types in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2 for V	-1.802	0.228	1054	-7.89	<.0001
Syl. position 1 vs. 3 for V	-2.044	0.261	1054	-7.822	<.0001
Syl. position 1 vs. 4 for V	-2	0.293	1054	-6.837	<.0001
Syl. position 1 vs. 5 for V	-2.97	0.348	1054	-8.542	<.0001
Syl. position 1 vs. 6 for V	-3.306	0.445	1054	-7.428	<.0001
Syl. position 1 vs. 7 for V	-2.522	0.615	1054	-4.1	0.0164
Syl. position 1 vs. 2 for VC	-1.822	0.35	1054	-5.211	0.0001
Syl. position 1 vs. 4 for VC	-2.602	0.459	1054	-5.672	<.0001
Syl. position 1 vs. 5 for VC	-2.933	0.512	1054	-5.731	<.0001
Syl. position 1 vs. 6 for VC	-2.288	0.585	1054	-3.913	0.0328
Syl. position 1 vs. 3 for VV	-2.253	0.517	1054	-4.358	0.0058
Syl. position 1 vs. 4 for VV	-2.324	0.567	1054	-4.098	0.0165
Syl. position 1 vs. 6 for VV	-3.261	0.748	1054	-4.361	0.0057
Syl. position 1 vs. 7 for VV	-3.933	0.879	1054	-4.475	0.0035
Syl. position 1 vs. 8 for VV	-4.524	1.116	1054	-4.053	0.0195

Table S20: Pairwise comparisons of mean vowel intensity (in dB) between rhyme types by syllable positions (counted from the end of the word) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
V vs. VVC in syl. position 1	-2.405	0.455	1054	-5.283	0.0001
VC vs. VVC in syl. position 1	-2.553	0.5	1054	-5.11	0.0002
VC vs. VV in syl. position 3	-1.905	0.391	1054	-4.879	0.0006
VC vs. VV in syl. position 8	-5.475	1.355	1054	-4.041	0.0204

Table S21: Pairwise comparisons of mean vowel intensity (in dB) between word lengths (counted in number of syllables) in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
2 vs. 7 syllables	2.033	0.323	1055	6.293	<.0001
2 vs. 8 syllables	1.23	0.33	1054	3.730	0.0063
3 vs. 7 syllables	1.75	0.285	1054	6.130	<.0001
3 vs. 8 syllables	0.947	0.295	1054	3.213	0.0364
4 vs. 7 syllables	1.979	0.279	1054	7.103	<.0001
4 vs. 8 syllables	1.175	0.29	1054	4.067	0.0017
5 vs. 7 syllables	1.389	0.287	1055	4.840	0.0001
6 vs. 7 syllables	1.485	0.279	1054	5.318	<.0001

Table S22: Pairwise comparisons of mean vowel intensity (in dB) between different positions of a word in an intonational phrase in dialogues data set.

	Estimate	Std. Error	df	t-ratio	p-value
Initial vs. final	1.55	0.174	1054	8.886	<.0001
Initial vs. only	1.084	0.18	1055	6.016	<.0001
Medial vs. final	1.422	0.207	1054	6.858	<.0001
Medial vs. only	0.955	0.213	1055	4.473	0.0001
Final vs. only	-0.467	0.156	1055	-2.993	0.0150

3.2 Intensity: Single-word utterances

Table S23: Model summary of fixed effects for best linear mixed-effects model of mean vowel intensity (in dB) in single-word data set.

	Estimate	Std. Error	df	t value	Pr(> t)
(Intercept)	73.25	0.78	491.83	93.44	0.00
VC rhyme	1.39	0.37	1106.79	3.79	0.00
VV rhyme	1.55	0.61	1243.54	2.54	0.01
VVC rhyme	3.34	0.43	1242.04	7.85	0.00
Syl. position 2	6.32	0.37	1211.66	17.00	0.00
Syl. position 3	7.29	0.39	1242.94	18.80	0.00
Syl. position 4	8.23	0.42	1243.88	19.48	0.00
Syl. position 5	7.61	0.47	1243.19	16.09	0.00
Syl. position 6	7.41	0.65	1243.33	11.46	0.00
Word length 2 syl.	-1.22	0.70	1242.12	-1.73	0.08
Word length 3 syl.	-3.04	0.70	1242.69	-4.32	0.00
Word length 4 syl.	-3.56	0.72	1243.53	-4.95	0.00
Word length 5 syl.	-3.76	0.72	1243.55	-5.18	0.00
Word length 6 syl.	-2.28	0.77	1243.77	-2.96	0.00
Word length 7 syl.	-3.84	0.78	1243.82	-4.93	0.00
Word length 8 syl.	-3.94	0.78	1243.49	-5.05	0.00
Word length 9 syl.	-6.41	1.01	1244.00	-6.33	0.00
VC rhyme : Syl. position 2	-2.41	0.49	1055.39	-4.93	0.00
VV rhyme : Syl. position 2	-0.52	0.74	1236.28	-0.70	0.48
VVC rhyme : Syl. position 2	-3.16	0.55	1238.68	-5.71	0.00
VC rhyme : Syl. position 3	-0.96	0.56	1224.32	-1.73	0.08
VV rhyme : Syl. position 3	0.21	0.71	1243.34	0.30	0.77
VVC rhyme : Syl. position 3	-2.14	0.63	1243.99	-3.41	0.00
VC rhyme : Syl. position 4	0.20	1.00	1233.51	0.20	0.85
VV rhyme : Syl. position 4	0.08	0.76	1243.97	0.10	0.92
VVC rhyme : Syl. position 4	-0.54	0.99	1243.97	-0.54	0.59
VC rhyme : Syl. position 5	-0.14	0.99	1240.93	-0.14	0.89
VV rhyme : Syl. position 5	2.41	1.04	1243.62	2.33	0.02
VVC rhyme : Syl. position 5	-2.84	0.94	1243.58	-3.02	0.00
VC rhyme : Syl. position 6	3.03	1.84	1242.48	1.65	0.10
VV rhyme : Syl. position 6	0.15	1.21	1241.24	0.12	0.90
VVC rhyme : Syl. position 6	0.15	1.42	1243.58	0.10	0.92

Table S24: Pairwise comparisons of mean vowel intensity (in dB) between syllable positions (counted from the end of the word) by rhyme types in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
Syl. position 1 vs. 2 for V	-6.321	0.375	1212	-16.864	<.0001
Syl. position 1 vs. 3 for V	-7.295	0.388	1243	-18.795	<.0001
Syl. position 1 vs. 4 for V	-8.232	0.423	1244	-19.442	<.0001
Syl. position 1 vs. 5 for V	-7.609	0.473	1243	-16.08	<.0001
Syl. position 1 vs. 6 for V	-7.413	0.647	1243	-11.451	<.0001
Syl. position 1 vs. 2 for VC	-3.915	0.306	1162	-12.811	<.0001
Syl. position 1 vs. 3 for VC	-6.331	0.404	1206	-15.688	<.0001
Syl. position 1 vs. 4 for VC	-8.428	0.907	1236	-9.293	<.0001
Syl. position 1 vs. 5 for VC	-7.471	0.889	1242	-8.406	<.0001
Syl. position 1 vs. 6 for VC	-10.447	1.734	1243	-6.027	<.0001
Syl. position 1 vs. 2 for VV	-5.804	0.633	1243	-9.164	<.0001
Syl. position 1 vs. 3 for VV	-7.505	0.599	1243	-12.537	<.0001
Syl. position 1 vs. 4 for VV	-8.31	0.654	1244	-12.715	<.0001
Syl. position 1 vs. 5 for VV	-10.02	0.941	1243	-10.648	<.0001
Syl. position 1 vs. 6 for VV	-7.561	1.042	1243	-7.254	<.0001
Syl. position 1 vs. 2 for VVC	-3.165	0.406	1243	-7.792	<.0001
Syl. position 1 vs. 3 for VVC	-5.155	0.502	1244	-10.266	<.0001
Syl. position 1 vs. 4 for VVC	-7.697	0.904	1243	-8.513	<.0001
Syl. position 1 vs. 5 for VVC	-4.765	0.829	1243	-5.748	<.0001
Syl. position 1 vs. 6 for VVC	-7.562	1.28	1243	-5.91	<.0001
Syl. position 2 vs. 3 for VC	-2.416	0.437	1242	-5.533	<.0001
Syl. position 2 vs. 4 for VC	-4.513	0.918	1244	-4.918	0.0003
Syl. position 2 vs. 5 for VC	-3.556	0.903	1244	-3.937	0.0179
Syl. position 2 vs. 6 for VC	-6.532	1.747	1244	-3.739	0.0365
Syl. position 2 vs. 3 for VV	-1.701	0.464	1243	-3.67	0.0462
Syl. position 2 vs. 4 for VV	-2.506	0.527	1243	-4.752	0.0006
Syl. position 2 vs. 5 for VV	-4.216	0.86	1243	-4.902	0.0003
Syl. position 2 vs. 3 for VVC	-1.99	0.512	1243	-3.887	0.0216
Syl. position 2 vs. 4 for VVC	-4.532	0.908	1243	-4.993	0.0002
Syl. position 2 vs. 4 for V	-1.912	0.349	1228	-5.472	<.0001

Table S25: Pairwise comparisons of mean vowel intensity (in dB) between rhyme types by syllable positions (counted from the end of the word) in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
V vs. VC in syl. position 1	-1.393	0.373	1109	-3.731	0.0376
V vs. VVC in syl. position 1	-3.337	0.427	1242	-7.821	<.0001
VC vs. VVC in syl. position 1	-1.944	0.33	1235	-5.885	<.0001
VC vs. VV in syl. position 2	-2.049	0.439	1244	-4.664	0.0009
V vs. VV in syl. position 3	-1.764	0.356	1244	-4.95	0.0002
V vs. VV in syl. position 5	-3.964	0.839	1242	-4.723	0.0006

Table S26: Pairwise comparisons of mean vowel intensity (in dB) between word lengths (counted in number of syllables) in single-word data set.

	Estimate	Std. Error	df	t-ratio	p-value
1 vs. 2 syllables	1.218	0.704	1242	1.731	0.7272
1 vs. 3 syllables	3.035	0.703	1243	4.318	0.0006
1 vs. 4 syllables	3.56	0.719	1244	4.950	<.0001
1 vs. 5 syllables	3.755	0.725	1244	5.179	<.0001
1 vs. 7 syllables	3.841	0.781	1244	4.918	<.0001
1 vs. 8 syllables	3.945	0.784	1244	5.034	<.0001
1 vs. 9 syllables	6.406	1.013	1244	6.325	<.0001
2 vs. 3 syllables	1.817	0.227	1243	8.014	<.0001
2 vs. 4 syllables	2.342	0.257	1229	9.102	<.0001
2 vs. 5 syllables	2.537	0.272	1230	9.321	<.0001
2 vs. 7 syllables	2.623	0.401	1210	6.550	<.0001
2 vs. 8 syllables	2.727	0.407	1188	6.706	<.0001
2 vs. 9 syllables	5.188	0.758	1242	6.842	<.0001
3 vs. 5 syllables	0.72	0.223	1244	3.231	0.0344
3 vs. 9 syllables	3.371	0.74	1244	4.553	0.0002
4 vs. 9 syllables	2.847	0.747	1244	3.812	0.0046
5 vs. 9 syllables	2.651	0.74	1244	3.580	0.0107
7 vs. 9 syllables	2.565	0.779	1243	3.292	0.0283
8 vs. 9 syllables	2.461	0.777	1242	3.166	0.0419
6 vs. 7 syllables	1.557	0.441	1243	3.531	0.0128
6 vs. 8 syllables	1.661	0.445	1244	3.733	0.0061
6 vs. 9 syllables	4.122	0.781	1244	5.280	<.0001
4 vs. 6 syllables	-1.276	0.353	1243	-3.618	0.0094
5 vs. 6 syllables	-1.471	0.355	1243	-4.144	0.0012