

Appendix B: Mixed effects model results tables

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	342.86	42.676	10.008	8.034	p < .001***
Phasing (Onbeat vs. Offbeat)	-243.153	21.781	10.039	-11.163	p < .001***
Position1 (Medial vs. Initial)	33.294	3.973	7372.314	8.381	p < .001***
Position2 (Final vs. Initial)	84.6	3.656	7372.439	23.139	p < .001***
Stress (Stressed vs. Unstressed)	-24.864	2.591	7372.309	-9.598	p < .001***
Phasing:Position1	9.781	3.973	7372.369	2.462	p < .05*
Phasing:Position2	4.733	3.656	7372.295	1.295	p = .20
Phasing:Stress	-6.749	2.591	7372.244	-2.605	p < .01**
Position1:Stress	-13.805	3.972	7372.084	-3.476	p < .001***
Position2:Stress	-32.463	3.656	7372.407	-8.878	p < .001***
Phasing:Position1:Stress	-16.338	3.972	7372.187	-4.114	p < .001***
Phasing:Position2:Stress	-8.187	3.656	7372.398	-2.239	p < .05*

Table B1: English Time to Metronome by Phasing, Position, and Stress

Model: TimeToMetronome ~ Phasing * Position * Stress + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	163.686	28.461	11.228	5.751	p < .001***
Phasing (Onbeat vs. Offbeat)	-138.755	17.441	11.724	-7.956	p < .001***
Position1 (Medial vs. Initial)	21.82	7.344	6207.728	2.971	p < .05*
Position2 (Final vs. Initial)	84.068	4.867	6211.143	17.273	p < .001***
Tone1 (High vs. Low)	-10.615	4.136	6207.425	-2.566	p < .05*
Phasing:Position1	5.735	7.344	6208.601	0.781	p = .43
Phasing:Position2	3.571	4.865	6214.373	0.734	p = .46
Phasing:Tone	4.52	4.136	6207.862	1.093	p = .27
Position1:Tone	-34.029	7.337	6206.507	-4.638	p < .001***
Position2:Tone	34.764	4.844	6207.498	7.177	p < .001***
Phasing:Position1:Tone	17.505	7.337	6207.393	2.386	p < .05
Phasing:Position2:Tone	-7.655	4.843	6208.764	-1.58	p = .11

Table B2: Medumba Time to Metronome by Phasing, Position, and Tone

Model: TimeToMetronome ~ Phasing * Position * Tone + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	1.11E + 02	4.13E + 00	1.10E + 01	26.867	p < .001***
Phasing (Onbeat vs. Offbeat)	1.55E + 00	7.81E-01	1.20E + 01	1.982	p = .07
Position1 (Medial vs. Initial)	-2.29E + 01	8.57E-01	9.58E + 03	-26.751	p < .001***
Position2 (Final vs. Initial)	4.72E + 01	7.68E-01	9.58E + 03	61.362	p < .001***
Stress (Stressed vs. Unstressed)	2.35E + 01	5.54E-01	9.58E + 03	42.335	p < .001***
Phasing:Position1	-1.47E + 00	7.21E-01	9.59E + 03	-2.033	p < .05*
Phasing:Position2	-1.46E + 00	7.68E-01	9.59E + 03	-1.901	p = .06
Phasing:Stress	5.27E-01	5.54E-01	9.59E + 03	0.951	p = .34
Position1:Stress	-1.25E + 00	8.57E-01	9.58E + 03	-1.454	p = .15
Position2:Stress	-2.77E + 00	7.68E-01	9.59E + 03	-3.599	p < .01**
Phasing:Position1:Stress	3.92E-01	8.57E-01	9.59E + 03	0.458	p = .65
Phasing:Position2:Stress	-1.15E + 00	7.68E-01	9.59E + 03	-1.49	p = .14

Table B3: English Vowel Duration by Phasing, Position, and Stress

Model: Duration ~ Phasing * Position * Stress + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	1.06E + 02	4.50E + 00	1.11E + 01	23.609	p < .001***
Phasing (Onbeat vs. Offbeat)	3.42E + 00	7.75E-01	1.50E + 01	4.418	p < .001***
Position1 (Medial vs. Initial)	-1.92E + 01	7.85E-01	9.54E + 03	-24.406	p < .001***
Position2 (Final vs. Initial)	3.12E + 01	5.23E-01	9.54E + 03	59.749	p < .001***
Tone (High vs. Low)	1.02E + 01	4.43E-01	9.54E + 03	23.149	p < .001***
Phasing:Position1	-2.41 E + 00	0.5331	9.54E + 03	-4.512	p < .001***
Phasing:Position2	-2.71E + 00	5.23E-01	9.54E + 03	-5.182	p < .001***
Phasing:Tone	6.37E-01	4.43E-01	9.54E + 03	1.439	p = .15
Position1:Tone	-8.52E + 00	7.86E-01	9.54E + 03	-10.843	p < .001***
Position2:Tone	1.39E + 01	5.23E-01	9.54E + 03	26.506	p < .001***
Phasing:Position1:Tone	-3.38E-01	7.86E-01	9.54E + 03	-0.43	p = .67
Phasing:Position2:Tone	2.15E-01	5.23E-01	9.54E + 03	0.41	p = .68

Table B4: Medumba Vowel Duration by Phasing, Position, and Tone

Model: Duration ~ Phasing * Position * Tone + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	3.26E-02	2.66E-02	1.20E + 01	1.226	p = .24
Phasing (Onbeat vs. Offbeat)	5.12E-02	1.26E-02	6.90E + 03	4.057	p < .001***
Position1 (Medial vs. Initial)	2.16E-02	1.96E-02	7.76E + 03	1.106	p = .27
Position2 (Final vs. Initial)	-7.76E-03	1.97E-02	7.71E + 03	-0.394	p = .69
Stress (Stressed vs. Unstressed)	-2.58E-02	1.33E-02	7.75E + 03	-1.944	p = .05
Duration	2.63E-03	1.53E-02	6.98E + 03	0.172	p = .86
Phasing:Position1	1.63E-02	1.90E-02	7.76E + 03	0.859	p = .39
Phasing:Position2	-4.47E-02	1.70E-02	7.73E + 03	-2.625	p < .01**
Phasing:Stress	-4.57E-02	1.24E-02	7.51E + 03	-3.683	p < .001***
Position1:Stress	-8.84E-04	1.89E-02	7.75E + 03	-0.047	p = .96
Position2:Stress	1.29E-02	1.69E-02	7.76E + 03	0.764	p = .44
Phasing:Position1:Stress	1.33E-02	1.90E-02	7.76E + 03	0.700	p = .48
Phasing:Position2:Stress	4.45E-03	1.70E-02	7.76E + 03	0.262	p = .79

Table B5: English F0 by Phasing, Position, Stress, and Duration

Model: zlogF0 ~ Phasing * Position * Stress + DurationScaled + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	-7.94E-02	1.23E-02	7.16E + 03	-6.474	p < .001***
Phasing (Onbeat vs. Offbeat)	-5.18E-02	1.97E-02	1.56E + 01	-2.63	p < .05*
Position1 (Medial vs. Initial)	-2.50E-01	2.21E-02	7.36E + 03	-11.307	p < .001***
Position2 (Final vs. Initial)	3.61E-02	1.63E-02	7.36E + 03	2.219	p = .10
Tone (High vs. Low)	5.37E-01	1.24E-02	7.35E + 03	43.273	p < .001***
Duration	1.21E-02	1.14E-02	6.75E + 03	1.065	p = .29
Phasing:Position1	2.21E-02	2.18E-02	7.35E + 03	1.018	p = .31
Phasing:Position2	-2.78E-02	1.46E-02	7.34E + 03	-1.903	p = .06
Phasing:Tone	7.19E-03	1.22E-02	7.36E + 03	0.589	p = .56
Position1:Tone	-1.13E-01	2.19E-02	7.35E + 03	-5.172	p < .001***
Position2:Tone	2.22E-01	1.51E-02	7.35E + 03	14.702	p < .001***
Phasing:Position1:Tone	3.20E-02	2.18E-02	7.35E + 03	1.471	p = .14
Phasing:Position2:Tone	-3.18E-02	1.46E-02	7.35E + 03	-2.185	p < .05*

Table B6: Medumba F0 by Phasing, Position, Tone, and Duration

Model: zlogF0 ~ Phasing * Position * Tone + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	6.36E+00	1.53E-02	1.34E+01	415.687	p<.001***
Phasing (Onbeat vs. Offbeat)	-1.27E-02	1.20E-02	1.51E+01	-1.056	p=.31
Position1 (Initial vs. Medial)	5.80E-02	5.61E-03	9.85E+03	10.338	p<.001***
Position2 (Final vs. Medial)	2.53E-02	4.88E-03	9.85E+03	5.187	p<.001***
VowelHeight1 (Low vs. High)	2.27E-01	8.66E-03	9.67E+03	26.22	p<.001***
VowelHeight2 (Mid vs. High)	9.84E-03	5.86E-03	9.49E+03	1.678	p=.09
Duration	-1.74E-02	3.24E-03	9.56E+03	-5.361	p<.001***
Phasing:Position1	1.19E-02	5.40E-03	9.85E+03	2.209	p<.05*
Phasing:Position2	3.04E-04	4.15E-03	9.83E+03	0.073	p=.94
Phasing:VowelHeight1	5.69E-03	8.20E-03	9.79E+03	0.694	p=.49
Phasing:VowelHeight2	2.32E-03	5.63E-03	9.72E+03	0.411	p=.68
Position1:VowelHeight1	8.78E-02	8.58E-03	9.84E+03	10.236	p<.001***
Position2:VowelHeight2	-7.40E-02	1.01E-02	9.85E+03	-7.351	p<.001***
Position1:VowelHeight2	-4.39E-02	5.50E-03	9.84E+03	-7.986	p<.001***
Phasing:Position1:VowelHeight1	2.072e-02	9.977e-03	9.843e+03	2.077	p<.05*
Phasing:Position2:VowelHeight2	4.66E-03	9.97E-03	9.85E+03	0.467	p=.64
Phasing:Position1:VowelHeight2	-1.16E-02	5.50E-03	9.84E+03	-2.10	p<.05*

Table B7: English F1 by Phasing, Position, Vowel Height, and Duration

Model: zF1 ~ Phasing * Position * VowelHeight + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	6.22E+00	2.47E-02	1.13E+01	252.329	p<.001***
Phasing (Onbeat vs. Offbeat)	-6.15E-03	3.67E-03	9.12E+03	-1.678	p=.09
Position1 (Initial vs. Medial)	1.93E-02	4.42E-03	9.12E+03	4.359	p<.001***
Position2 (Final vs. Medial)	7.91E-02	4.91E-03	9.13E+03	16.1	p<.001***
VowelHeight1 (Low vs. High)	2.86E-01	5.11E-03	9.12E+03	55.915	p<.001***
VowelHeight2 (Mid vs. High)	-2.45E-02	4.93E-03	9.12E+03	-4.977	p<.001***
Duration	-1.72E-02	3.38E-03	9.13E+03	-5.098	p<.001***
Phasing:Position1	4.96E-03	4.38E-03	9.12E+03	1.132	p=.26
Phasing:Position2	-2.71E-03	4.42E-03	9.12E+03	-0.614	p=.54
Phasing:VowelHeight1	7.62E-03	5.09E-03	9.12E+03	1.497	p=.13
Phasing:VowelHeight2	8.99E-04	4.92E-03	9.12E+03	0.183	p=.86
Position1:VowelHeight1	-1.70E-02	6.33E-03	9.12E+03	-2.68	p<.01**
Position2:VowelHeight1	-6.56E-02	6.67E-03	9.12E+03	-9.836	p<.001***
Position1:VowelHeight2	-3.91E-03	5.89E-03	9.12E+03	-0.665	p=.51
Position2:VowelHeight2	4.00E-02	6.13E-03	9.12E+03	6.528	p<.001***
Phasing:Position1:VowelHeight1	1.37E-02	6.29E-03	9.12E+03	2.176	p<.05*
Phasing:Position2:VowelHeight1	-1.09E-02	6.47E-03	9.12E+03	-1.686	p=.09
Phasing:Position1:VowelHeight2	-7.88E-03	5.89E-03	9.12E+03	-1.339	p=.18
Phasing:Position2:VowelHeight2	3.53E-03	6.03E-03	9.12E+03	0.586	p=.56

Table B8: Medumba F1 by Phasing, Position, Vowel Height, and Duration

Model: zF1 ~ Phasing * Position * VowelHeight + DurationScaled + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	7.40E+00	1.38E-02	1.21E+01	537.373	p<.001***
Phasing (Onbeat vs. Offbeat)	1.54E-02	3.51E-03	9.86E+03	4.39	p<.001***
Position1 (Medial vs. Initial)	-5.84E-02	3.38E-03	9.85E+03	-17.281	p<.001***
Position2 (Medial vs. Final)	6.08E-02	3.57E-03	9.85E+03	17.031	p<.001***
VowelBackness1 (Back vs. Front)	-2.47E-01	6.97E-03	9.85E+03	-35.465	p<.001***
VowelBackness2 (Central vs. Front)	1.19E-02	4.04E-03	9.85E+03	2.94	p<.01**
Duration	-8.98E-03	2.09E-03	9.86E+03	-4.302	p<.001***
Phasing:Position1	9.56E-03	3.32E-03	9.85E+03	2.877	p<.01**
Phasing:Position2	-7.63E-03	3.43E-03	9.85E+03	-2.228	p<.05*
Phasing:VowelBackness1	1.19E-02	7.06E-03	9.86E+03	1.681	p=.09
Phasing:VowelBackness2	-1.65E-02	4.04E-03	9.86E+03	-4.09	p<.001***
Position1:VowelBackness1	-9.98E-02	6.14E-03	9.85E+03	-16.26	p<.001***
Position2:VowelBackness1	1.43E-02	5.51E-03	9.85E+03	2.600	p<.01**
Phasing:Position1:VowelBackness1	8.87E-03	6.13E-03	9.85E+03	1.448	p=.15
Phasing:Position2:VowelBackness1	-4.09E-03	5.52E-03	9.85E+03	-0.741	p=.46

Table B9: English F2 by Phasing, Position, Vowel Backness, and Duration

Model: zF2 ~ Phasing * Position * VowelBackness + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	7.46E+00	2.00E-02	1.18E+01	373.661	p<.001***
Phasing (Onbeat vs. Offbeat)	1.10E-04	4.23E-03	9.12E+03	0.026	p=.98
Position1 (Medial vs. Initial)	8.34E-02	8.05E-03	9.12E+03	10.366	p<.001***
Position2 (Final vs. Initial)	-1.93E-02	4.52E-03	9.13E+03	-4.279	p<.001***
VowelBackness1 (Back vs. Front)	-1.36E-01	2.53E-02	9.13E+03	-5.365	p<.001***
VowelBackness2 (Central vs. Front)	-5.76E-02	4.19E-03	9.13E+03	-13.758	p<.001***
Duration	-9.01E-03	2.72E-03	9.13E+03	-3.31	p<.01**
Phasing:Position1	-1.42E-03	8.01E-03	9.12E+03	-0.177	p=.86
Phasing:Position2	1.17E-03	4.24E-03	9.12E+03	0.276	p=.78
Phasing:VowelBackness1	-5.15E-03	2.52E-02	9.12E+03	-0.204	p=.84
Phasing:VowelBackness2	1.80E-04	4.15E-03	9.12E+03	0.043	p=.97
Position1:VowelBackness1	2.08E-01	5.04E-02	9.13E+03	4.121	p<.001***
Position2:VowelBackness1	-1.04E-01	2.51E-02	9.13E+03	-4.153	p<.001***
Position1:VowelBackness2	-3.11E-02	6.05E-03	9.12E+03	-5.137	p<.001***
Phasing:Position1:VowelBackness1	1.38E-02	5.01E-02	9.12E+03	0.276	p=.78
Phasing:Position2:VowelBackness1	-8.89E-03	2.49E-02	9.12E+03	-0.357	p=.72
Phasing:Position1:VowelBackness2	-2.21E-03	6.05E-03	9.12E+03	-0.365	p=.72

Table B10: Medumba F2 by Phasing, Position, Vowel Backness and Duration

Model: zF2 ~ Phasing * Position * VowelBackness + DurationScaled + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	1.63E+00	6.08E-02	1.11E+01	26.759	p < .001***
Phasing (Onbeat vs. Offbeat)	3.54E-03	6.90E-02	1.11E+01	0.051	p = .96
Position1 (Medial vs. Initial)	7.60E-02	1.79E-02	9.84E+03	4.255	p < .001***
Position2 (Final vs. Initial)	-8.47E-02	1.81E-02	9.85E+03	-4.676	p < .001***
Stress (Stressed vs. Unstressed)	-2.18E-02	1.23E-02	9.85E+03	-1.765	p = .08
Duration	1.30E-01	1.41E-02	9.85E+03	9.222	p < .001***
Phasing:Position1	-7.44E-03	1.73E-02	9.84E+03	-0.431	p = .67
Phasing:Position2	-2.12E-02	1.55E-02	9.85E+03	-1.373	p = .17
Phasing:Stress	-1.28E-02	1.13E-02	9.85E+03	-1.131	p = .26
Position1:Stress	7.62E-02	1.73E-02	9.84E+03	4.407	p < .001***
Position2:Stress	-5.21E-02	1.54E-02	9.84E+03	-3.385	p < .01**
Phasing:Position1:Stress	5.04E-02	1.73E-02	9.84E+03	2.917	p < .01***
Phasing:Position2:Stress	-6.39E-02	1.54E-02	9.84E+03	-4.156	p < .001***

Table B11: English Vowel Euclidean Distance by Phasing, Position, Stress and Duration

Model: EuclidDist ~ Phasing * Position * Stress + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	2.06E+00	7.74E-02	1.13E+01	26.624	p < .001***
Phasing (Onbeat vs. Offbeat)	-3.36E-03	1.56E-02	2.17E+01	-0.216	p = .83
Position1 (Medial vs. Initial)	-1.80E-01	2.55E-02	9.13E+03	-7.069	p < .001***
Position2 (Final vs. Initial)	2.37E-01	1.92E-02	9.14E+03	12.348	p < .001***
Tone (High vs. Low)	-4.00E-02	1.43E-02	9.13E+03	-2.791	p < .01**
Duration	7.78E-02	1.45E-02	9.07E+03	5.371	p < .001***
Phasing:Position1	-2.65E-02	2.48E-02	9.12E+03	-1.068	p = .29
Phasing:Position2	4.53E-04	1.65E-02	9.12E+03	0.027	p = .98
Phasing:Tone	-1.11E-02	1.40E-02	9.13E+03	-0.791	p = .42
Position1:Tone	-8.20E-02	2.49E-02	9.12E+03	-3.291	p < .01**
Position2:Tone	4.16E-02	1.71E-02	9.13E+03	2.438	p < .05*
Phasing:Position1:Tone	-3.88E-02	2.48E-02	9.13E+03	-1.566	p = .12
Phasing:Position2:Tone	2.05E-02	1.65E-02	9.12E+03	1.242	p = .21

Table B12: Medumba Vowel Euclidean Distance by Phasing, Position, Tone, and Duration

Model: EuclidDist ~ Phasing * Position * Tone + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	4.63E+01	3.77E+00	1.10E+01	12.286	p < .001***
Phasing (Onbeat vs. Offbeat)	-3.03E-01	2.04E-01	1.11E+01	-1.482	p = .17
Position1 (Medial vs. Initial)	1.24E-01	7.50E-02	9.84E+03	1.654	p = .10
Position2 (Final vs. Initial)	-1.92E+00	7.60E-02	9.85E+03	-25.234	p < .001***
Stress (Stressed vs. Unstressed)	1.20E+00	5.17E-02	9.83E+03	23.225	p < .001***
Duration	6.86E-01	5.92E-02	9.85E+03	11.582	p < .001***
Phasing:Position1	-1.39E-01	7.25E-02	9.84E+03	-1.92	p = .05
Phasing:Position2	-1.70E-01	6.49E-02	9.84E+03	-2.614	p < .01**
Phasing:Stress	-6.34E-02	4.76E-02	9.84E+03	-1.331	p = .18
Position1:Stress	-1.08E+00	7.25E-02	9.84E+03	-14.846	p < .001***
Position2:Stress	2.04E-01	6.45E-02	9.84E+03	3.166	p < .01**
Phasing:Position1:Stress	1.79E-01	7.26E-02	9.84E+03	2.47	p < .05*
Phasing:Position2:Stress	1.17E-01	6.45E-02	9.84E+03	1.82	p = .07

Table B13: English Vowel Intensity by Phasing, Position, Stress, and Duration

Model: IntensityMidpoint ~ Phasing * Position * Stress + DurationScaled + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	5.75E+01	9.07E-01	1.10E+01	63.311	p < .001***
Phasing (Onbeat vs. Offbeat)	-2.23E-01	5.77E-02	9.13E+03	-3.871	p < .001***
Position1 (Medial vs. Initial)	-7.06E-01	1.05E-01	9.13E+03	-6.735	p < .001***
Position2 (Final vs. Initial)	-1.82E+00	7.88E-02	9.13E+03	-23.12	p < .001***
Tone (High vs. Low)	1.35E+00	5.89E-02	9.13E+03	22.861	p < .001***
Duration	-1.96E-01	5.96E-02	9.13E+03	-3.281	p < .01**
Phasing:Position1	1.89E-01	1.02E-01	9.13E+03	1.855	p = .06
Phasing:Position2	-2.05E-01	6.79E-02	9.13E+03	-3.013	p < .01**
Phasing:Tone	9.96E-02	5.74E-02	9.13E+03	1.734	p = .08
Position1:Tone	2.45E-01	1.03E-01	9.13E+03	2.387	p < .05*
Position2:Tone	-1.91E-01	7.02E-02	9.13E+03	-2.725	p < .01**
Phasing:Position1:Tone	8.08E-02	1.02E-01	9.13E+03	0.793	p = .43
Phasing:Position2:Tone	-5.83E-02	6.78E-02	9.13E+03	-0.86	p = .39

Table B14 Medumba Vowel Intensity by Phasing, Position, Tone, and Duration

Model: IntensityMidpoint ~ Phasing * Position * Tone + DurationScaled + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	1.20E + 02	3.47E + 01	1.09E + 01	3.466	p < .01**
Phasing (Onbeat vs. Offbeat)	-1.78E + 02	3.22E + 01	1.11E + 01	-5.512	p < .001***
Position (Initial vs. Final)	-7.78E + 01	1.18E + 01	5.78E + 02	-6.586	p < .001***
Prominence (Initial vs. NonInitial)	1.58E + 01	1.23E + 01	5.93E + 02	1.287	p = .20
Phasing:Position	-4.34E + 00	1.18E + 01	5.78E + 02	-0.367	p = .71
Phasing:Prominence	5.64E + 01	1.23E + 01	5.92E + 02	4.585	p < .001***
Position:Prominence	9.50E + 00	1.18E + 01	5.76E + 02	0.806	p = .42
Phasing:Position:Prominence	3.01E + 00	1.18E + 01	5.76E + 02	0.255	p = .80

Table B15 Medumba Time to Metronome by Phasing, Position, and Prominence

Model: TimeToMetronome ~ Phasing * Position * Prominence + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	1.32E + 02	5.36E + 00	1.13E + 01	24.655	p < .001***
Phasing (Onbeat vs. Offbeat)	5.42E + 00	1.53E + 00	1.31E + 01	3.529	p < .01**
Position (Initial vs. Final)	-3.57E + 01	9.58E-01	1.35E + 03	-37.30	p < .001***
Prominence (Initial vs. NonInitial)	-2.73E + 00	9.67E-01	1.35E + 03	-2.825	p < .01**
Phasing:Position	-1.23E + 00	9.58E-01	1.35E + 03	-1.281	p = .20
Phasing:Prominence	-1.08E + 00	9.63E-01	1.36E + 03	-1.118	p = .26
Position:Prominence	2.60E + 00	9.58E-01	1.35E + 03	2.715	p < .01**
Phasing:Position:Prominence	1.28E + 00	9.58E-01	1.35E + 03	1.335	p = .18

Table B16 Medumba Vowel Duration by Phasing, Position, and Prominence

Model: Duration ~ Phasing * Position * Prominence + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	118.6336	3.91	11.0489	30.341	p < .001***
Phasing1 (NoBeat vs. Onbeat)	15.1975	0.6936	14301.7963	21.912	p < .001***
Phasing2 (Offbeat vs. Onbeat)	-9.1201	0.6777	14295.4352	-13.456	p < .001***
Position1 (Medial vs. Initial)	-26.364	0.7404	14292.1375	-35.608	p < .001***
Position2 (Final vs. Initial)	52.4626	0.668	14292.0555	78.532	p < .001***
Stressed (Stressed vs. Unstressed)	22.9338	0.48	14292.0884	47.778	p < .001***
Phasing1:Position1	-6.8605	1.0543	14292.0714	-6.507	p < .001***
Phasing2:Position1	3.4179	1.0431	14292.0276	3.277	p < .01**
Phasing1:Position2	10.6292	0.9571	14292.0466	11.106	p < .001***
Phasing2:Position2	-3.8558	0.9384	14292.0275	-4.109	p < .001***
Phasing1:Stressed	-1.0906	0.6849	14292.0548	-1.592	p = .11
Phasing2:Stressed	0.0358	0.6756	14292.0252	0.053	p = .96
Position1:Stressed	2.004	0.7403	14292.1003	2.707	p < .05*
Position2:Stressed	-3.3164	0.6681	14292.0829	-4.964	p < .001***
Phasing1:Position1:Stressed	6.5214	1.0543	14292.0777	6.186	p < .001***
Phasing2:Position1:Stressed	-3.6808	1.0431	14292.0273	-3.529	p < .01**
Phasing1:Position2:Stressed	-1.1081	0.9571	14292.1174	-1.158	p = .25
Phasing2:Position2:Stressed	1.705	0.9384	14292.0489	1.817	p = .07

Table B17 English Vowel Duration by Phasing (3-way), Position, and Stress

Model: Duration ~ Phasing * Position * Stress + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	106.3828	3.9868	14.0974	26.684	p < .001***
Phasing1 (NoBeat vs. Onbeat)	6.2142	0.5345	14170.8545	11.626	p < .001***
Phasing2 (Offbeat vs. Onbeat)	-6.5324	0.5168	14190.6548	-12.64	p < .001***
Position1 (Medial vs. Initial)	-19.9271	0.618	14179.0471	-32.245	p < .001***
Position2 (Final vs. Initial)	33.0076	0.4227	14179.038	78.091	p < .001***
Tone (High vs. Low)	8.8309	0.3518	14179.0954	25.101	p < .001***
Phasing1:Position1	-1.5803	0.8388	14179.0486	-1.884	p = .06
Phasing2:Position1	0.5164	0.8919	14179.0463	0.579	p = .56
Phasing1:Position2	3.5871	0.5915	14179.031	6.065	p < .001***
Phasing2:Position2	0.8938	0.6002	14179.0336	1.489	p = .14
Phasing1:Tone	-2.7845	0.4832	14179.0518	-5.763	p < .001***
Phasing2:Tone	0.7178	0.5044	14179.0495	1.423	p = .15
Position1:Tone	-6.5359	0.6181	14179.0761	-10.575	p < .001***
Position2:Tone	12.3275	0.4227	14179.0598	29.162	p < .001***
Phasing1:Position1:Tone	3.9821	0.8389	14179.0607	4.747	p < .001***
Phasing2:Position1:Tone	-1.6927	0.892	14179.0766	-1.898	p = .06
Phasing1:Position2:Tone	-3.0276	0.5915	14179.0472	-5.118	p < .001***
Phasing2:Position2:Tone	1.2847	0.6002	14179.0566	2.14	p = .03

Table B18 Medumba Vowel Duration by Phasing (3-way), Position, and Tone

Model: Duration ~ Phasing * Position * Tone + (1 + Phasing | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	2.23E+00	3.60E-02	1.15E+01	61.908	p<.001***
Phasing1 (Onbeat vs. Offbeat)	1.13E-01	1.84E-02	1.25E+04	6.138	p<.001***
Phasing2 (NoBeat vs. Offbeat)	-2.04E-01	2.13E-02	1.24E+04	-9.548	p<.001***
Position1	-6.82E-01	1.73E-02	1.25E+04	-39.362	p<.001***
Position2	9.69E-01	2.12E-02	1.25E+04	45.754	p<.001***
Phasing1:Position1	5.83E-02	2.31E-02	1.25E+04	2.521	p<.05*
Phasing2:Position1	9.01E-03	2.70E-02	1.25E+04	0.333	p=.74
Phasing1:Position2	-8.60E-02	2.84E-02	1.25E+04	-3.031	p<.01**
Phasing2:Position2	-1.47E-02	3.29E-02	1.25E+04	-0.447	p=.65

Table B19 English Relative Duration by Phasing (3-way), Position, and Prominence

Model: RelativeDuration ~ Phasing * Position + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	2.53E-02	1.58E-02	1.46E + 04	1.596	p = .11
Phasing1 (Onbeat vs. NoBeat)	-3.65E-02	2.17E-02	1.46E + 04	-1.687	p = .09
Phasing2 (Offbeat vs. NoBeat)	6.88E-03	2.23E-02	1.46E + 04	0.308	p = .76
Position1 (Medial vs. Initial)	-2.82E-01	1.70E-02	1.46E + 04	-16.616	p < .001***
Position2 (Final vs. Initial)	5.17E-02	1.47E-02	1.46E + 04	3.511	p < .01**
VowelHeight1 (Low vs. High)	7.16E-01	2.57E-02	1.46E + 04	27.883	p < .001***
VowelHeight2 (Mid vs. High)	-9.09E-03	1.71E-02	1.46E + 04	-0.532	p = .59
Duration	-7.28E-03	9.46E-03	1.46E + 04	-0.769	p = .44
Phasing1:Position1	-6.65E-02	2.33E-02	1.46E + 04	-2.856	p < .01**
Phasing2:Position1	8.60E-02	2.38E-02	1.46E + 04	3.622	p < .01**
Phasing1:Position2	-3.23E-02	1.76E-02	1.46E + 04	-1.83	p = .07
Phasing2:Position2	-1.31E-02	1.74E-02	1.46E + 04	-0.757	p = .45
Phasing1:VowelHeight1	1.02E-01	3.53E-02	1.46E + 04	2.894	p < .01**
Phasing2:VowelHeight1	-6.67E-02	3.38E-02	1.46E + 04	-1.971	p = .05
Phasing1:VowelHeight2	-1.08E-02	2.32E-02	1.46E + 04	-0.464	p = .64
Phasing2:VowelHeight2	5.80E-02	2.35E-02	1.46E + 04	2.461	p < .05*
Position1:VowelHeight1	-1.11E-01	3.02E-02	1.46E + 04	-3.678	p < .01**
Position2:VowelHeight1	-2.84E-01	3.04E-02	1.46E + 04	-9.368	p < .001***
Position1:VowelHeight2	1.79E-01	1.66E-02	1.46E + 04	10.798	p < .001***
Phasing1:Position1:VowelHeight1	-9.22E-02	4.19E-02	1.46E + 04	-2.20	p < .05*
Phasing2:Position1:VowelHeight1	5.78E-02	4.30E-02	1.46E + 04	1.345	p = .18
Phasing1:Position2:VowelHeight1	2.69E-03	3.93E-02	1.46E + 04	0.069	p = .95
Phasing2:Position2:VowelHeight1	8.48E-02	4.53E-02	1.46E + 04	1.872	p = .06
Phasing1:Position1:VowelHeight2	6.45E-02	2.32E-02	1.46E + 04	2.781	p < .01**
Phasing2:Position1:VowelHeight2	-8.48E-02	2.35E-02	1.46E + 04	-3.602	p < .001***

Table B20: English F1 Frequency by Phasing (3-way), Position, and Vowel Height

Model: zF1 ~ Phasing * Position * VowelHeight + DurationScaled + (1 | Subject)

	Estimate	Std. Error	df	t-value	p-value
(Intercept)	9.99E-02	8.90E-03	1.38E+04	11.227	p<.001***
Phasing1 (Onbeat vs. NoBeat)	1.79E-01	1.25E-02	1.38E+04	14.321	p<.001***
Phasing2 (Offbeat vs. NoBeat)	2.16E-01	1.25E-02	1.38E+04	17.33	p<.001***
Position1 (Medial vs. Initial)	-1.87E-01	1.58E-02	1.38E+04	-11.804	p<.001***
Position2 (Final vs. Initial)	1.25E-01	1.18E-02	1.38E+04	10.609	p<.001***
VowelHeight1 (Low vs. High)	8.35E-01	1.22E-02	1.38E+04	68.316	p<.001***
VowelHeight2 (Mid vs. High)	-1.16E-01	1.23E-02	1.38E+04	-9.46	p<.001***
Duration	-5.07E-03	7.66E-03	1.38E+04	-0.661	p=.51
Phasing1:Position1	-7.22E-02	2.19E-02	1.38E+04	-3.298	p<.001***
Phasing2:Position1	-5.96E-02	2.19E-02	1.38E+04	-2.719	p<.01**
Phasing1:Position2	6.69E-02	1.51E-02	1.38E+04	4.433	p<.001***
Phasing2:Position2	9.18E-02	1.50E-02	1.38E+04	6.123	p<.001***
Phasing1:VowelHeight1	8.14E-02	1.74E-02	1.38E+04	4.686	p<.001***
Phasing2:VowelHeight1	3.56E-02	1.73E-02	1.38E+04	2.054	p<.05*
Phasing1:VowelHeight2	-2.31E-02	1.72E-02	1.38E+04	-1.346	p=.18
Phasing2:VowelHeight2	-2.25E-02	1.71E-02	1.38E+04	-1.318	p=.19
Position1:VowelHeight1	7.99E-02	2.11E-02	1.38E+04	3.788	p<.001***
Position2:VowelHeight1	-6.94E-02	1.57E-02	1.38E+04	-4.428	p<.001***
Position1:VowelHeight2	-4.72E-03	2.18E-02	1.38E+04	-0.216	p=.83
Position2:VowelHeight2	4.92E-02	1.49E-02	1.38E+04	3.308	p<.001***
Phasing1:Position1:VowelHeight1	6.12E-02	2.94E-02	1.38E+04	2.085	p<.05*
Phasing2:Position1:VowelHeight1	1.12E-01	2.94E-02	1.38E+04	3.823	p<.001***
Phasing1:Position2:VowelHeight1	-1.21E-01	2.20E-02	1.38E+04	-5.508	p<.001***
Phasing2:Position2:VowelHeight1	-7.23E-02	2.20E-02	1.38E+04	-3.293	p<.001***
Phasing1:Position1:VowelHeight2	-7.24E-02	3.02E-02	1.38E+04	-2.396	p<.05*
Phasing2:Position1:VowelHeight2	-8.55E-02	3.01E-02	1.38E+04	-2.84	p<.01**
Phasing1:Position2:VowelHeight2	9.77E-02	2.09E-02	1.38E+04	4.677	p<.001***
Phasing2:Position2:VowelHeight2	7.09E-02	2.07E-02	1.38E+04	3.425	p<.001***

Table B21: Medumba F1 Frequency by Phasing (3-way), Position, and Vowel Height

Model: zF1 ~ Phasing * Position * VowelHeight + DurationScaled + (1 | Subject)