

**Appendix D: Results of the linear mixed model – normalized rime duration  
(Experiment 2 – German)**

/aɪl/				
Intercept ~ 1.111045				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	0.162790	2.010	< 0.05 *
	/an/	0.935957	11.321	< 0.0001 ***
	/al/	0.346454	5.409	< 0.0001 ***
	/ar/	0.315699	4.972	< 0.0001 ***
/aɪ/	/aɪt/	0.063737	0.787	0.431491
	/aɪg/	-0.058361	-0.706	0.480450
	/aɪm/	-0.031458	-0.388	0.697785
	/aɪn/	0.139784	2.182	< 0.05 *
/aʊ/	/aʊm/	0.234694	3.697	< 0.0001 ***
	/aʊn/	0.248912	3.011	< 0.001 **
	/aʊl/	0.220862	3.417	< 0.0001 ***
/e/	/en/	0.362678	4.479	< 0.0001 ***
	/el/	0.198755	3.069	< 0.001 **
	/er/	0.086893	1.073	0.283605
/i/	/id/	0.411287	5.079	< 0.0001 ***
	/ig/	0.322261	3.980	< 0.0001 ***
	/in/	0.680313	8.401	< 0.0001 ***
	/il/	0.436712	8.324	< 0.0001 ***
	/ir/	0.267663	5.153	< 0.0001 ***
/o/	/ol/	0.152286	1.881	0.060422 .
	/or/	-0.005699	-0.070	0.943910
/u/	/ul/	0.521559	6.441	< 0.0001 ***
	/ur/	0.284219	3.437	< 0.0001 ***
/y/	/yt/	0.407769	4.930	< 0.0001 ***
	/yl/	0.296854	3.591	< 0.0001 ***

Table 1: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{\text{closed}}/V_{\text{open}}$ ) rime durations per rime identity. References level for the comparisons: /aɪl/

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/aI/				
Intercept ~ 1.45750				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	-0.18366	-2.063	<0.05 *
	/an/	0.58950	6.508	<0.0001 ***
	/ar/	-0.03075	-0.419	0.67564
/ai/	/ait/	-0.28272	-3.176	<0.001 **
	/arg/	-0.40482	-4.470	<0.0001 ***
	/am/	-0.37791	-4.245	<0.0001 ***
	/an/	-0.20667	-2.794	<0.01 **
	/aIl/	0.34645	-5.409	<0.0001 ***
/au/	/aum/	-0.11176	-1.521	0.12866
	/aun/	-0.09754	-1.077	0.28181
	/aul/	-0.12559	-1.686	0.09212 .
/e/	/en/	0.01622	0.182	0.85544
	/el/	-0.14770	-1.980	<0.05 *
	/er/	-0.25956	-2.916	<0.01 **
/i/	/id/	0.06483	0.728	0.46668
	/ig/	-0.02419	-0.272	0.78588
	/in/	0.33386	3.750	<0.0001 ***
	/il/	0.09026	1.406	0.16004
	/ir/	-0.07879	-1.236	0.21699
/o/	/ol/	-0.19417	-2.181	<0.05 *
	/or/	-0.35215	-3.956	<0.0001 ***
/u/	/ul/	0.17511	1.967	<0.05 *
	/ur/	-0.06224	-0.687	0.49227
/y/	/yt/	0.06132	0.677	0.49868
	/yl/	-0.04960	-0.548	0.58408

Table 2: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{C_{closed}}/V_{open}$ ) rime durations per rime identity. References level for the comparisons: /aI/

**Appendix D: Results of the linear mixed model – normalized rime duration  
(Experiment 2 – German)**

<b>/aʊ/</b>				
Intercept ~ 1.33191				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	-0.05807	-0.649	0.516371
	/an/	0.71509	7.858	< 0.0001 ***
	/al/	0.12559	1.686	0.092124 .
	/ar/	0.09484	1.282	0.200158
/aɪ/	/aɪt/	-0.15713	-1.757	0.079382 .
	/aɪg/	-0.27922	-3.069	< 0.01 **
	/aɪm/	-0.25232	-2.821	< 0.01 **
	/aɪn/	-0.08108	-1.088	0.276888
	/aɪl/	-0.22086	-3.417	< 0.0001 ***
/aʊ/	/aʊm/	0.01383	0.187	0.851699
	/aʊn/	0.02805	0.308	0.757946
/e/	/en/	0.14182	1.586	0.113274
	/el/	-0.02211	-0.294	0.768540
	/er/	-0.13397	-1.498	0.134612
/i/	/id/	0.19042	2.129	< 0.05 *
	/ig/	0.10140	1.134	0.257309
	/in/	0.45945	5.137	< 0.0001 ***
	/il/	0.21585	3.333	< 0.0001 ***
	/ir/	0.04680	0.727	0.467329
/o/	/ol/	-0.06858	-0.767	0.443508
	/or/	-0.22656	-2.533	< 0.05 *
/u/	/ul/	0.30070	3.362	< 0.0001 ***
	/ur/	0.06336	0.696	0.486504
/y/	/yt/	0.18691	2.054	< 0.05 *
	/yl/	0.07599	0.835	0.403850

Table 3: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{\text{closed}}/V_{\text{open}}$ ) rime durations per rime identity. References level for the comparisons: /aʊ/

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/el/				
Intercept ~ 1.30980				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	-0.03597	-0.402	0.688045
	/an/	0.73720	8.093	<0.0001 ***
	/al/	0.14770	1.980	<0.05 *
	/ar/	0.11694	1.578	0.114947
/ai/	/art/	-0.13502	-1.508	0.131999
	/aig/	-0.25712	-2.824	<0.01 **
	/aim/	-0.23021	-2.571	<0.05 *
	/ain/	-0.05897	-0.791	0.429445
	/aил/	-0.19875	-3.069	<0.01 **
/au/	/aum/	0.03594	0.485	0.627812
	/aun/	0.05016	0.551	0.581914
	/aul/	0.02211	0.294	0.768540
/e/	/en/	0.16392	1.831	0.067537 .
	/er/	-0.11186	-1.249	0.211949
/i/	/id/	0.21253	2.374	<0.05 *
	/ig/	0.12351	1.379	0.168200
	/in/	0.48156	5.378	<0.0001 ***
	/il/	0.23796	3.667	<0.0001 ***
	/ir/	0.06891	1.069	0.285579
/o/	/ol/	-0.04647	-0.519	0.603933
	/or/	-0.20445	-2.283	<0.05 *
/u/	/ul/	0.32280	3.605	<0.0001 ***
	/ur/	0.08546	0.939	0.348250
/y/	/yt/	0.20901	2.294	<0.05 *
	/yl/	0.09810	1.077	0.281779

Table 4: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{C_{closed}}/V_{open}$ ) rime durations per rime identity. References level for the comparisons: /el/

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/il/				
Intercept ~ 1.54776				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	-0.27392	-3.378	< 0.0001 ***
	/an/	0.49924	6.030	< 0.0001 ***
	/al/	-0.09026	-1.406	0.160040
	/ar/	-0.12101	-1.902	0.057578 .
/ai/	/ait/	-0.37298	-4.600	< 0.0001 ***
	/aig/	-0.49507	-5.981	< 0.0001 ***
	/aim/	-0.46817	-5.774	< 0.0001 ***
	/am/	-0.29693	-4.624	< 0.0001 ***
	/aɪl/	-0.43671	-8.324	< 0.0001 ***
/au/	/aum/	-0.20202	-3.176	< 0.01 **
	/aun/	-0.18780	-2.269	< 0.05 *
	/aul/	-0.21585	-3.333	< 0.0001 ***
/e/	/en/	-0.07403	-0.913	0.361537
	/el/	-0.23796	-3.667	< 0.0001 ***
	/er/	-0.34982	-4.314	< 0.0001 ***
/i/	/id/	-0.02542	-0.314	0.753956
	/ig/	-0.11445	-1.411	0.158533
	/in/	0.24360	3.004	< 0.01 **
	/ir/	-0.16905	-3.244	< 0.01 **
/o/	/ol/	-0.28443	-3.508	< 0.0001 ***
	/or/	-0.44241	-5.456	< 0.0001 ***
/u/	/ul/	0.08485	1.046	0.295734
	/ur/	-0.15249	-1.842	0.065915 .
/y/	/yt/	-0.02894	-0.350	0.726773
	/yl/	-0.13986	-1.689	0.091540 .

Table 5: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{C_{closed}}/V_{open}$ ) rime durations per rime identity. References level for the comparisons: /il/

**Appendix D: Results of the linear mixed model – normalized rime duration  
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/ol/				
Intercept ~ 1.26333				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	0.01050	0.103	0.917916
	/an/	0.78367	7.590	<0.0001 ***
	/al/	0.19417	2.181	<0.05 *
	/ar/	0.16341	1.844	0.065581 .
/ai/	/art/	-0.08855	-0.869	0.385068
	/aig/	-0.21065	-2.041	<0.05 *
	/aim/	-0.18374	-1.803	0.071722 .
	/ain/	-0.01250	-0.140	0.888373
	/aил/	-0.15229	-1.881	0.060422
/au/	/aum/	0.08241	0.930	0.352717
	/aon/	0.09663	0.936	0.349574
	/aul/	0.06858	0.767	0.443508
/e/	/en/	0.21039	2.065	<0.05 *
	/el/	0.04647	0.519	0.603933
	/er/	-0.06539	-0.642	0.521185
/i/	/id/	0.25900	2.542	<0.05 *
	/ig/	0.16997	1.668	0.095674
	/in/	0.52803	5.183	<0.0001 ***
	/il/	0.28443	3.508	<0.0001 ***
	/ir/	0.11538	1.429	0.153502
/o/	/or/	-0.15799	-1.551	0.121416
/u/	/ul/	0.36927	3.624	<0.0001 ***
	/ur/	0.13193	1.278	0.201707 .
/y/	/yt/	0.25548	2.474	<0.05 *
	/yl/	0.14457	1.400	0.161802

Table 6: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{C_{closed}}/V_{open}$ ) rime durations per rime identity. References level for the comparisons: /ol/

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/ul/				
Intercept ~ 1.63260				
Nucleus	rimeID	Est.	t-value	p-value
/a/	/at/	0.35877	-3.521	< 0.0001 ***
	/an/	0.41440	4.014	< 0.0001 ***
	/al/	-0.17511	-1.967	<0.05 *
	/ar/	-0.20586	-2.323	<0.05 *
/ai/	/art/	-0.45782	-4.494	< 0.0001 ***
	/aig/	-0.57992	-5.618	< 0.0001 ***
	/am/	-0.55302	-5.428	< 0.0001 ***
	/an/	-0.38178	-4.288	< 0.0001 ***
	/arl/	-0.52156	-6.441	< 0.0001 ***
/au/	/aum/	-0.28686	-3.237	< 0.01 **
	/aon/	-0.27265	-2.641	< 0.01 **
	/aul/	-0.30070	-3.362	< 0.0001 ***
/e/	/en/	-0.15888	-1.559	0.119320
	/el/	-0.32280	-3.605	< 0.0001 ***
	/er/	-0.43467	-4.266	< 0.0001 ***
/i/	/id/	-0.11027	-1.082	0.279459
	/ig/	-0.19930	-1.956	0.050824 .
	/in/	0.15875	1.558	0.119618
	/il/	-0.08485	-1.046	0.295734
	/ir/	-0.25390	-3.144	<0.05 *
/o/	/ol/	-0.36927	-3.624	< 0.0001 ***
	/or/	-0.52726	-5.175	< 0.0001 ***
/u/	/ur/	-0.23734	-2.299	<0.05 *
/y/	/yt/	-0.11379	-1.102	0.270766
	/yl/	-0.22470	-2.177	<0.05 *

Table 7: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $VC_{\text{closed}}/V_{\text{open}}$ ) rime durations per rime identity. References level for the comparisons: /ul/

**Appendix D: Results of the linear mixed model – normalized rime duration  
(Experiment 2 – German)**

<i>/yI/</i>				
Intercept ~ 1.40790				
Nucleus	rimeID	Est.	<i>t</i> -value	<i>p</i> -value
<i>/a/</i>	<i>/at/</i>	-0.13406	-1.299	0.194456
	<i>/an/</i>	0.63910	6.111	< 0.0001 ***
	<i>/al/</i>	0.04960	0.548	0.584083
	<i>/ar/</i>	0.01885	0.209	0.834505
<i>/ai/</i>	<i>/art/</i>	-0.23312	-2.258	<0.05 *
	<i>/aig/</i>	-0.35522	-3.397	< 0.0001 ***
	<i>/aim/</i>	-0.32831	-3.180	< 0.01 **
	<i>/am/</i>	-0.15707	-1.734	0.083319 .
	<i>/aIl/</i>	-0.29685	-3.591	< 0.0001 ***
<i>/au/</i>	<i>/aum/</i>	-0.06216	-0.689	0.490796
	<i>/aun/</i>	-0.04794	-0.458	0.646732
	<i>/aul/</i>	-0.07599	-0.835	0.403850
<i>/e/</i>	<i>/en/</i>	0.06582	0.638	0.523914
	<i>/el/</i>	-0.09810	-1.077	0.281779
	<i>/er/</i>	-0.20996	-2.034	<0.05 *
<i>/i/</i>	<i>/id/</i>	0.11443	1.108	0.268004
	<i>/ig/</i>	0.02541	0.246	0.805666
	<i>/in/</i>	0.38346	3.715	< 0.0001 ***
	<i>/il/</i>	0.13986	1.689	0.091540 .
	<i>/ir/</i>	-0.02919	-0.354	0.723371
<i>/o/</i>	<i>/ol/</i>	-0.14457	-1.400	0.161802
	<i>/or/</i>	-0.30255	-2.931	< 0.01 **
<i>/u/</i>	<i>/ul/</i>	0.22470	2.177	<0.05 *
	<i>/ur/</i>	-0.01264	-0.121	0.903868
<i>/y/</i>	<i>/yt/</i>	0.11091	1.061	0.289225



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Table 8: Results of the linear mixed model - pairwise comparisons of *normalized* (reported as ratios  $V_{\text{closed}}/V_{\text{open}}$ ) rime durations per rime identity. References level for the comparisons:  
/ul/