

**Supplemental Material S1.** Numerical results of linear mixed effects models.

Model	Condition	Complexity	MSD group	Difference from controls	<i>p</i> value
Ratios	Natural-to-fast ratio	Lower complexity	Hypokinetic	−.177	.213
			Phonetic	−.179	.257
			Prosodic	−.556	< .001
			Spastic	−.530	.023
		Higher complexity	Hypokinetic	.003	.982
			Phonetic	.005	.977
			Prosodic	−.215	.118
			Spastic	−.099	.682
	Slow-to-natural ratio	Lower complexity	Hypokinetic	−.223	.118
			Phonetic	.192	.251
			Prosodic	−.313	.023
			Spastic	−.514	.028
		Higher complexity	Hypokinetic	.275	.058
			Phonetic	−.102	.557
			Prosodic	−.248	.070
			Spastic	−.432	.063
Pauses	Fast	Lower complexity	Hypokinetic	.035	.715
			Phonetic	.064	.564
			Prosodic	.145	.118
			Spastic	−.041	.821
		Higher complexity	Hypokinetic	.008	.936
			Phonetic	.109	.333
			Prosodic	.274	.004
			Spastic	.072	.658
	Natural	Lower complexity	Hypokinetic	−.017	.841
			Phonetic	.064	.569
			Prosodic	.122	.200
			Spastic	−.022	.904
		Higher complexity	Hypokinetic	.113	.296
			Phonetic	.242	.031
			Prosodic	.389	< .001
			Spastic	.002	.994
	Slow	Lower complexity	Hypokinetic	.048	.579
			Phonetic	.096	.398
			Prosodic	.197	.027
			Spastic	.227	.163
		Higher complexity	Hypokinetic	.033	.738
			Phonetic	−.008	.955
			Prosodic	.252	.002
			Spastic	.167	.315

Note. MSD = motor speech disorder.