

Supplemental Material S1. Characteristics of PwPD included in the meta-analysis.

Acoustic Feature	Article	Language	Disease duration	Age	n PD	F	M
F0 variability	Bandini et al. (2015)	Italian	8.3	72.2	20	6	14
F0 variability	De Keyser et al. (2016)	Dutch	7	70	14	4	10
F0 variability	Galaz et al. (2016)	Czech	7.61	68.48	39	39	0
F0 variability	Galaz et al. (2016)	Czech	7.83	66.21	59	0	59
F0 variability	Goberman & Elmer (2005)*	English	—	—	11	—	—
F0 variability	Goberman & Elmer (2005)	English	—	73	12	6	6
F0 variability	Goberman et al. (2005)	English	11.4	69.1	9	3	6
F0 variability	Harel et al. (2004)	English	—	—**	4	2	2
F0 variability	Huh et al. (2015)	Korean	1.8	64.1	14	14	0
F0 variability	Huh et al. (2015)	Korean	2.4	65.9	15	0	15
F0 variability	Jeancolas et al. (2022)	French	—	—	38	38	0
F0 variability	Jeancolas et al. (2022)	French	—	—	63	0	63
F0 variability	Jeancolas et al. (2022)	French	—	—	41	41	0
F0 variability	Jeancolas et al. (2022)	French	—	—	74	0	74
F0 variability	Lirani-Silva et al. (2015)	Portuguese	5.5	68	13	7	6
F0 variability	Lowit & Kuschmann (2012)	English	—	62.6	8	3	5
F0 variability	Rektorova et al. (2007)	Czech	3.4	66	9	9	0
F0 variability	Rusz et al. (2011)	Czech	2.52	61.74	23	4	19
F0 variability	Rusz et al. (2017)	Czech	9.3	64.4	22	12	10
F0 variability	Rusz et al. (2022)	Czech	1.9	61.2	40	40	0
F0 variability	Rusz et al. (2022)	Czech	1.9	60.8	60	0	60
F0 variability	Skodda et al. (2011)	German	—	67.32	72	72	0
F0 variability	Skodda et al. (2011)	German	—	67.04	97	0	97
F0 variability	Skrabal et al. (2020)	Czech	8.8	64.5	17	10	7
F0 variability	Thies et al. (2020)	German	5.9	66.2	19	6	13
F0 variability	Tjaden & Wilding (2011a)	English	6.8	54.2	5	5	0
F0 variability	Tjaden & Wilding (2011a)	English	8.33	67.17	6	0	6
F0 variability	Tykalova et al. (2020)	Italian	5.8	63.4	21	8	13
F0 variability	Tykalova et al. (2020)	Italian	4.7	65.5	21	7	14
F0 variability	Verkhodanova et al. (2022)	Dutch	10.7	65.6	30	9	21
Intensity variability	da Silva et al. (2021)	Portuguese	—	—	10	10	0
Intensity variability	da Silva et al. (2021)	Portuguese	—	—	10	0	10
Intensity variability	De Keyser et al. (2016)	Dutch	7	70	14	4	10
Intensity variability	Galaz et al. (2016)	Czech	7.8	67.52	98	39	59
Intensity variability	Jeancolas et al. (2022)	French	—	—	41	41	0
Intensity variability	Jeancolas et al. (2022)	French	—	—	74	0	74
Intensity variability	Lam & Tjaden (2016)	English	—	68.3	14	5	9
Intensity variability	Lirani-Silva et al. (2015)	Portuguese	5.5	68	13	7	6
Intensity variability	Rektorova et al. (2007)	Czech	3.4	66	9	9	0
Intensity variability	Rusz et al. (2011)	Czech	2.52	61.74	23	4	19
Intensity variability	Rusz et al. (2017)	Czech	9.3	64.4	22	12	10
Intensity variability	Rusz et al. (2022)	Czech	1.9	61.2	40	40	0
Intensity variability	Rusz et al. (2022)	Czech	1.9	60.8	60	0	60
Intensity variability	Skrabal et al. (2020)	Czech	8.8	64.5	17	10	7
Intensity variability	Tykalova et al. (2020)	Italian	5.8	65.5	21	7	14
Intensity variability	Tykalova et al. (2020)	Italian	4.7	65.5	21	7	14
Speech rate	Goberman et al. (2005)	English	11.4	69.1	9	3	6
Speech rate	Huh et al. (2015)	Korean	1.8	64.1	14	14	0

Speech rate	Huh et al. (2015)	Korean	2.4	65.9	15	0	15
Speech rate	Lirani-Silva et al. (2015)	Portuguese	5.5	68	13	7	6
Speech rate	Lowit & Kuschmann (2012)	English	—	62.6	8	3	5
Speech rate	Skodda et al. (2011)	German	—	67.32	72	72	0
Speech rate	Skodda et al. (2011)	German	—	67.04	97	0	97
Speech rate	Tjaden & Wilding (2005)	English	7.3	63	12	6	6
Speech rate	Tjaden & Wilding (2011b)	English	7.25	63	12	6	6
Speech rate	Verkhodanova et al. (2022)	Dutch	10.7	65.6	30	9	21
Speech rate	Walsh & Smith (2012)	English	6.4	73.4	16	5	11
Speech rate	Whitfield & Gravelin (2019)	English	6.2	67	10	5	5
Articulation rate	Bandini et al. (2015)	Italian	8.3	72.2	20	6	14
Articulation rate	Goberman & Elmer (2005)	English	—	73	12	6	6
Articulation rate	Goberman & Elmer (2005)	English	—	—	11	—	—
Articulation rate	Goberman et al. (2005)	English	11.4	69.1	9	3	6
Articulation rate	Konstantopoulos et al. (2021)	Greek	7.69	73.72	20	4	16
Articulation rate	Lam & Tjaden (2016)	English	—	68.3	14	5	9
Articulation rate	Lowit et al. (2018)	English	7.2	68.2	10	0	10
Articulation rate	McRae et al. (2002)	English	5.5	64.3	4	4	0
Articulation rate	McRae et al. (2002)	English	8.2	67.9	9	0	9
Articulation rate	Rusz et al. (2011)	Czech	2.52	61.74	23	4	19
Articulation rate	Rusz et al. (2022)	Czech	1.9	61.2	40	40	0
Articulation rate	Rusz et al. (2022)	Czech	1.9	60.8	60	0	60
Articulation rate	Skodda et al. (2011)	German	—	67.32	72	72	0
Articulation rate	Skodda et al. (2011)	German	—	67.04	97	0	97
Articulation rate	Skrabal et al. (2020)	Czech	8.8	64.5	17	10	7
Articulation rate	Tjaden & Wilding (2004)	English	7.25	63	12	6	6
Articulation rate	Tjaden & Wilding (2011a)	English	7.6	61	11	5	6
Articulation rate	Verkhodanova et al. (2022)	Dutch	10.7	65.6	30	9	21
Pause duration	Harel et al. (2004)	English	—	—	4	2	2
Pause duration	Hlavnicka et al. (2017)	Czech	1.6	64.9	30	9	21
Pause duration	Huh et al. (2015)	Korean	1.8	64.1	14	14	0
Pause duration	Huh et al. (2015)	Korean	2.4	65.9	15	0	15
Pause duration	Jeancolas et al. (2022)	French	—	—	41	41	0
Pause duration	Jeancolas et al. (2022)	French	—	—	74	0	74
Pause duration	Jeancolas et al. (2022)	French	—	—	38	38	0
Pause duration	Jeancolas et al. (2022)	French	—	—	63	0	63
Pause duration	Rusz et al. (2021)	Czech	1.5	75.4	24	10	14
Pause duration	Rusz et al. (2021)	Czech	2.6	45.1	24	9	15
Pause duration	Rusz et al. (2022)	Czech	1.9	61.2	40	40	0
Pause duration	Rusz et al. (2022)	Czech	1.9	60.8	60	0	60
Pause duration	Tjaden & Wilding (2011b)	English	7.25	63	12	6	6
Pause duration	Tykalova et al. (2020)	Italian	5.8	63.4	21	8	13
Pause duration	Tykalova et al. (2020)	Italian	4.7	65.5	21	7	14
Pause duration	Whitfield & Gravelin (2019)	English	6.2	67	10	5	5
Pause ratio	Goberman & Elmer (2005)	English	—	—	11	—	—
Pause ratio	Goberman & Elmer (2005)	English	—	73	12	6	6
Pause ratio	Goberman et al. (2005)	English	11.4	69.1	9	3	6
Pause ratio	Rusz et al. (2011)	Czech	2.52	61.74	23	4	19
Pause ratio	Skodda et al. (2011)	German	—	67.32	72	72	0
Pause ratio	Skodda et al. (2011)	German	—	67.04	97	0	97
Pause ratio	Tjaden & Wilding (2011b)	English	7.25	63	12	6	6
F0	Goberman et al. (2002)	English	13.7	70	3	3	0
F0	Goberman et al. (2002)	English	10.3	68.7	6	0	6

F0	Lam & Tjaden (2016)	English	—	68.3	14	5	9
F0	Rektorova et al. (2007)	Czech	3.4	66	9	9	0
F0	Skodda et al. (2011)	German	—	67.32	72	72	0
F0	Skodda et al. (2011)	German	—	67.04	97	0	97
F0	Tanaka et al. (2011)	Japanese	3.91	69.5	24	24	0
F0	Tanaka et al. (2011)	Japanese	3.72	72.5	15	0	15
Intensity	da Silva et al. (2021)	Portuguese	—	—	10	10	0
Intensity	da Silva et al. (2021)	Portuguese	—	—	10	0	10
Intensity	Darling & Huber (2011)	English	4.8	78	9	3	6
Intensity	De Keyser et al. (2016)	Dutch	7	70	14	4	10
Intensity	Lam & Tjaden (2016)	English	—	68.3	14	5	9
Intensity	Rektorova et al. (2007)	Czech	3.4	66	9	9	0
Intensity	Rusz et al. (2017)	Czech	9.3	64.4	22	12	10
Intensity	Skodda et al. (2010)	German	2.41	63.9	23	14	9
Intensity	Skrabal et al. (2020)	Czech	8.8	64.5	17	10	7
Intensity	Thies et al. (2020)	German	5.9	66.2	19	6	13
Intensity	Tjaden & Wilding (2004)	English	7.25	63	12	6	6
Intensity	Tjaden & Wilding (2005)	English	7.3	63	12	6	6
Intensity	Tjaden & Wilding (2011a)	English	7.6	61	11	5	6
Intensity	Walsh & Smith (2012)	English	6.4	73.4	16	5	11

Note. *n* PD = number of PD participants; F = number of female PD participants; M = number of male PD participants.

*If an article reports data from multiple studies involving different participant groups, each study will have its own row in the table.

**Between 55 and 75.