

Supplemental Table S2. Characteristics of studies included in quantitative synthesis.

No	First author Year	Participant information						Training design			Perception measure			Production measure		
		Source	TL (L1)	Proficiency	Sample size (MT:ST)	Sex ratio (M:F)	Mean age	Target phones	Task paradigm (stimuli)	Talker number in MT	Training length (hr)	Test task	Talker type	Stimuli type	Elicitation prompt	Stimuli type
1	Brousseau-Lapr�e 2013	J	French (English)	Beginner	10:10	N/A	26	/ə/-/ɑ/	I (real)	5	1	I	B	B	N/A	N/A
2	Davis 2015:1	D	English (Chinese)	Advanced	11:15	N/A	N/A	/r/-/l/ /f/-/s/	PL (pseudo)	10	N/A	I	T	T	picture	T
3	Davis 2015:2	D	English (Chinese)	Intermediate	9:5	N/A	N/A	/r/-/l/ /f/-/s/	PL (pseudo)	10	N/A	I	T	T	picture	T
4	Deng 2018	J	Chinese (English)	Beginner	16:16	17:15	25.63	T1, T2 T3, T4	I (pseudo)	4	4.5	I	U	T	N/A	N/A
5	Dong 2019	J	Chinese (most English)	Beginner	20:20	N/A	24.62	T1, T2 T3, T4	I (real)	4	3	B	B	B	picture	B
6	Giannakopoulou 2017	J	English (Greek)	Advanced	22:19	10:31	24.3	/i/-/I/	I (real)	4	N/A	D	B	B	N/A	N/A
7	Hardison 2003	J	English (Korean)	Intermediate	8:8	N/A	N/A	/r/-/l/	I (real)	5	4.5	I	B	U	N/A	N/A
8	Lee 2007	C	Chinese (English)	Beginner	47 (no details)	N/A	21.6	T1, T2, T4	I (pseudo)	4	4	I	U	T	N/A	N/A
9	Macdonald 2012	D	French (English)	Intermediate	14:14	N/A	20	/u/-/y/ /ɑ/-/ɔ/	I (real)	6	N/A	I	U	U	N/A	N/A
10	Perrachione 2011:1	J	Pseudo tone language (English)	Beginner	10:16	N/A	N/A	LT, RT, FT	I (pseudo)	4	8	I	U	T	N/A	N/A
11	Perrachione 2011:2	J	Pseudo tone language (English)	Beginner	10:16	N/A	N/A	LT, RT, FT	I (pseudo)	4	8	I	U	T	N/A	N/A
12	Shehata 2013	D	Arabic (English)	Beginner	15:15	11:19	N/A	/h/-/h/	PL (pseudo)	3	0.75	D	U	T	N/A	N/A
13	Silpachai 2020	J	Chinese (English)	Beginner	14:13	10:17	21.7	T1, T2 T3, T4	I (real)	4	4-8	I	U	U	N/A	N/A
14	Wiener 2020:1	J	Chinese (English)	Intermediate	20:20	N/A	21.4	T1, T2 T3, T4	PL (pseudo)	4	2	N/A	N/A	N/A	AO	T
15	Wiener 2020:2	J	Chinese (English)	Beginner	20:20	N/A	21.4	T1, T2 T3, T4	PL (pseudo)	4	2	N/A	N/A	N/A	AO	T
16	Wong 2013	D	English (Chinese)	Advanced	9:7	5:11	16.3	/i/-/I/, /e/- /æ/, /o/-/u:/	I (real)	6	2.5	I	T	T	orthograp hic	T
17	Zhang 2021:1	J	English (Chinese)	Intermediate	20:20	N/A	21	/i/-/I/	PL (real)	4	1-1.5	I	U	B	orthograp hic	B
18	Zhang 2021:2	J	English (Chinese)	Intermediate	20:20	N/A	21	/i/-/I/	PL (real)	4	1-1.5	I	U	B	N/A	N/A

Note. (1) Abbreviations: J=journal; D=dissertation; C=conference; T1=Mandarin tone 1; T2= Mandarin tone 2; T3= Mandarin tone 3; T4= Mandarin tone 4; I=identification; D=discrimination; PL=passive listening; T=trained; U=untrained; B=both; P=picture; A=auditory; O= orthographic; N/A=not available. (2) Information involves only the task included in the quantitative synthesis.