

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

						Participant information																						
						ASD sample										TD sample												
Year	First author	Country Language	Task paradigm	Stimulus modality: stimulus form	Response option	N (male%)	Sex ratio (M:F)	Age (SD)	Diagnosis criteria used	SCQ	IQ (WISC/WAIS); PPVT/BPVS;RSPM/RM					N (male%)	Sex ratio (M:F)	Age (SD)	IQ (WISC/WAIS); PPVT/BPVS; RSPM/RM									
																			FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM	FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM
1a	1998	Heaton	The UK/ English	PL	A: isolated tone V: animal picture	L	10 (100%)	10:0	9.9	Confirmed diagnosis	N/A	85.5	N/A	N/A	N/A	N/A	10 (100%)	10:0	8.1 (N/A)	N/A	N/A	N/A	N/A	N/A				
1b	1998	Heaton	The UK/ English	PM	A: isolated tone V: animal picture	L	10 (100%)	10:0	9.9	Confirmed diagnosis	N/A	85.5	N/A	N/A	N/A	N/A	10 (100%)	10:0	8.1 (N/A)	N/A	N/A	N/A	N/A	N/A				
2	2000	Mottron	Canada/ English	PC	A: melodic contour	C	13 (84.62 %)	11:2	16.73 (6.9)	ADI-R, DSM-IV	N/A	> 80	N/A	106.69 (11.13)	N/A	N/A	13 (100%)	13:0	15.33 (3.41)	>80	N/A	105.54 (11.24)	N/A	N/A				
3	2003	Foxton	The UK/ English	PC	A: melodic contour	C	13 (84.62 %)	11:2	18.1 (2)	DSM-IV	N/A	87.9 (10.9)	92.5 (14.5)	83.9 (8.1)	N/A	N/A	15 (86.67%)	13:2	17.7 (2.2)	89.1 (10)	91.2 (10.9)	88 (10.7)	N/A	N/A				
4a	2003	Heaton	The UK/ English	PM	A: isolated tone V: animal picture	L	14 (N/A)	N/A	10.75 (N/A)	Confirmed diagnosis	N/A	N/A	N/A	N/A	93	108	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
4b	2003	Heaton	The UK/ English	PCD	A: melodic contour	C	14 (N/A)	N/A	10.75 (N/A)	Confirmed diagnosis	N/A	N/A	N/A	N/A	93	108	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A				

Participant information																																
Year	First author	Country	Task	Stimulus	Response	ASD sample										TD sample																
						Language	paradigm	modality: stimulus form	option	N	Sex	Age	Diagnosis	SCQ	IQ (WISC/WAIS); PPVT/BPVS;RSPM/RM					N	Sex	Age	IQ (WISC/WAIS); PPVT/BPVS; RSPM/RM									
															(male%)	ratio	(SD)	criteria	used				FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM	FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM
4c	2003	Heaton	The UK/ English	PCD	A: melodic contour	C	15	N/A	10 (N/A)	Confirmed diagnosis	N/A	N/A	N/A	N/A	92	107	28	N/A	N/A	N/A	N/A	N/A	N/A	N/A								
5a	2005	Heaton	The UK/ English	PDR	A: pitch interval	C	15	N/A	10 (N/A)	Confirmed diagnosis	N/A	N/A	N/A	N/A	92	107	28	N/A	N/A	N/A	N/A	N/A	N/A	N/A								
5b	2005	Heaton	The UK/ English	PC	A: melodic contour	C	15	N/A	10 (N/A)	Confirmed diagnosis	N/A	N/A	N/A	N/A	92	107	28	N/A	N/A	N/A	N/A	N/A	N/A	N/A								
6a	2005	Altgassen	The UK/ English	PL	A: isolated tone V: animal picture	L	17 (100%)	17:0	9.34 (1.12)	DSM-IV	N/A	N/A	N/A	N/A	80.94 (18.69)	N/A	13 (100%)	13:0	9.13 (1.68)	N/A	N/A	N/A	106.15 (11.54)	N/A								
6b	2005	Altgassen	The UK/ English	PCD	A: melodic contour V: animal picture	L	17 (100%)	17:0	9.34 (1.12)	DSM-IV	N/A	N/A	N/A	N/A	80.94 (18.69)	N/A	13 (100%)	13:0	9.13 (1.68)	N/A	N/A	N/A	106.15 (11.54)	N/A								
7	2007	Järvinen- Pasley	The UK/ English	PC	A: melodic contour	C	19 (84.21 %)	16:3	11.55 (2.34)	DSM-IV	N/A	N/A	N/A	N/A	92 (17.39)	94 (10.81)	19 (68.42%)	13:6	11.68 (2.21)	N/A	N/A	N/A	95 (16.03)	91 (14.31)								
8	2008	Järvinen- Pasley	The UK/ English	PCI	A: melodic contour V: picture of pitch contour	C	20 (85%)	17:3	12.55 (2.57)	DSM-IV	N/A	N/A	N/A	N/A	84 (19.83)	87 (14.43)	20 (80%)	16:4	12.03 (2.62)	N/A	N/A	N/A	83 (20.11)	84 (16.12)								

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						N (male%)	Sex ratio (M:F)	Age (SD)	Diagnosis criteria used	SCQ	IQ (WISC/WAIS); PPVT/BPVS;RSPM/RM					N (male%)	Sex ratio (M:F)	Age (SD)	IQ (WISC/WAIS); PPVT/BPVS; RSPM/RM					
											FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM				FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM	
9	2008	Heaton, Davis	The UK/ English	PN	A: isolated tone	C	1 (100%)	1:0	35	Confirmed diagnosis	N/A	N/A	N/A	N/A	N/A	N/A	9	N/A	32.89 (14.31)	N/A	N/A	N/A	N/A	N/A
10	2008	Heaton, Hudry	The UK/ English	PHD	A: melodic contour	C	14 (100%)	14:0	10.5 (3.96)	ICD-10	N/A	N/A	N/A	N/A	82.36 (18)	N/A	14 (92.86%)	13:1	10.52 (2.37)	N/A	N/A	N/A	77.71 (13.94)	N/A
11a	2008	Heaton, Walliam	The UK/ English	PDR	A: pitch interval V: picture of staircase	C	32	N/A	14.5 (2.25)	Confirmed diagnosis	N/A	N/A	N/A	N/A	N/A	78.56 (16.19)	35	N/A	14 (1.5)	N/A	N/A	N/A	N/A	79.54 (15.48)
11b	2008	Heaton, Walliam	The UK/ English	PM	A: isolated tone V: picture of staircase	C	32	N/A	14.5 (2.25)	Confirmed diagnosis	N/A	N/A	N/A	N/A	N/A	78.56 (16.19)	35	N/A	14 (1.5)	N/A	N/A	N/A	N/A	79.54 (15.48)
12	2009	Jones	The UK/ English	PHD	A: pitch interval	C	72 (91.67 %)	66:6	15.5 (0.475)	ICD-10, ADOS-G	N/A	87.79 (17.32)	84.31 (17.41)	93.36 (17.44)	N/A	N/A	48 (95.83%)	46:2	15.5 (0.49)	89.33 (21.53)	87.25 (19.70)	92.83 (21.15)	N/A	N/A
13	2013	Eigsti	USA/ English	PHD	A: pitch interval	C	29 (86.21 %)	25:4	12.3 (2.3)	ADOS, ADI-R	23 (5.9)	N/A	104 (13)	111 (14)	N/A	N/A	20 (85%)	17:3	13.7 (2.9)	N/A	113 (12)	115 (12)	N/A	N/A
14a	2014	Stanutz	Canada/ English	PHD	A: pitch interval	C	25 (76%)	19:6	10.67 (N/A)	DSM-IV	N/A	>70	N/A	N/A	N/A	N/A	25 (44%)	11:14	10.42 (N/A)	N/A	N/A	N/A	N/A	N/A

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							ASD sample										TD sample							
							N (male%)	Sex ratio (M:F)	Age (SD)	Diagnosis criteria used	SCQ	IQ (WISC/WAIS); PPVT/BPVS;RSPM/RM					N (male%)	Sex ratio (M:F)	Age (SD)	IQ (WISC/WAIS); PPVT/BPVS; RSPM/RM				
												FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM				FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM
14b	2014	Stanutz	Canada/ English	PC	A: melodic contour	C	25 (76%)	19:6	10.67 (N/A)	DSM-IV	N/A	>70	N/A	N/A	N/A	N/A	25 (44%)	11:14	10.42 (N/A)	N/A	N/A	N/A	N/A	N/A
14c	2014	Stanutz	Canada/ English	PM	A: melodic contour	C	25 (76%)	19:6	10.67 (N/A)	DSM-IV	N/A	>70	N/A	N/A	N/A	N/A	25 (44%)	11:14	10.42 (N/A)	N/A	N/A	N/A	N/A	N/A
15a	2015	Jiang	China/ Mandarin	PC	A: melodic contour	C	17	N/A	9.41 (3.03)	DSM-5 (2013)	24.29 (6.78)	N/A	N/A	N/A	116 .06 (27.17)	119.12 (13.77)	17	N/A	9.16 (2.76)	N/A	N/A	N/A	148.71 (16.66)	122.24 (8.5)
15b	2015	Jiang	China/ Mandarin	PCI	A: melodic contour V: picture of pitch contour	C	17	N/A	9.41 (3.03)	DSM-5 (2013)	24.29 (6.78)	N/A	N/A	N/A	116 .06 (27.17)	119.12 (13.77)	17	N/A	9.16 (2.76)	N/A	N/A	N/A	148.71 (16.66)	122.24 (8.5)
16a	2015	Globerson	Israel/ Hebrew	PDR	A: pitch interval	C	20 (100%)	20:0	28.8 (6.8)	ADOS	N/A	N/A	N/A	N/A	N/A	N/A	32 (100%)	32:0	26.2 (3.5)	N/A	N/A	N/A	N/A	N/A
16b	2015	Globerson	Israel/ Hebrew	PHD	A: pitch interval	C	20 (100%)	20:0	28.8 (6.8)	ADOS	N/A	N/A	N/A	N/A	N/A	N/A	32 (100%)	32:0	26.2 (3.5)	N/A	N/A	N/A	N/A	N/A
17a	2016	Mayer	The UK/ English	PHD	A: melodic contour	C	14 (92.86 %)	13:1	13.8 (1.96)	Confirmed diagnosis	N/A	N/A	N/A	N/A	71.50 (22.94)	N/A	14 (100%)	14:0	13.53 (0.88)	N/A	N/A	N/A	100.07 (16.14)	N/A

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						ASD sample										TD sample																			
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															(male%)	ratio	(SD)	criteria	used				FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM	(male%)	ratio	(SD)	FIQ	VIQ	PIQ/ NVIQ	PPVT/ BPVS	RSPM/ RM
17b	2016	Mayer	The UK/ English	PHD	A: melodic contour	C	19 (78.95 %)	15:4	40.23 (11.33)	DSM-IV, ADOS	N/A	113.37 (15.27)	111.16 (15.57)	112.95 (12.97)	105.63 (12.07)	N/A	19 (78.95%)	15:4	38.26 (9.05)	N/A	N/A	N/A	106.05 (10.24)	N/A											
18	2017	Cheng	China/ Cantonese	PHD	A: pitch interval	C	20 (85%)	17:3	25 (3.22)	DSM-III, ICD-10, ADOS-2	N/A	N/A	N/A	N/A	N/A	N/A	20 (85%)	17:3	24 (3.6)	N/A	N/A	N/A	N/A	N/A											
19	2019	Germain	Canada/ English	PDR	A: pitch interval	C	17 (100%)	17:0	13.7 (2.3)	DSM-IV, ADOS	N/A	110.8 (18.3)	N/A	N/A	N/A	N/A	19 (42.11%)	8:11	12.9 (2.3)	115.8 (8.1)	N/A	N/A	N/A	N/A											
20	2019	Schelinski	German/ Germany	PC	A: melodic contour	C	16 (81.25 %)	13:3	33.75 (10.12)	ICD-10, ADOS, ADI-R	20.33 (5.7)	110.31 (13.79)	110.75 (12.35)	107.38 (17.55)	N/A	N/A	16 (81.25%)	13:3	33.69 (9.58)	111.5 (10.97)	108.75 (12.59)	112.69 (9.59)	N/A	N/A											
21	2019	Jamey	Canada/ English	PC	A: melodic contour	C	19 (100%)	19:0	10.4 (1.6)	ADOS, ADI-R	19.5 (5.2)	118.6 (14.5)	114.8 (13.3)	119.4 (17)	N/A	N/A	21 (100%)	21:0	9.8 (1.8)	122.2 (11.2)	115.1 (12)	122.9 (15.41)	N/A	N/A											
22	2021	Weiss	Canada/ English	PM	A: melodic contour	C	26 (84.62 %)	22:4	11.1 (1.4)	DSM-IV	N/A	N/A	N/A	N/A	N/A	N/A	26 (88.46%)	23:3	10.7 (1.5)	N/A	N/A	N/A	N/A	N/A											

Note: (1) Abbreviations: PC = pitch contour discrimination task; PCI = pitch contour identification task; PCD = pitch chord disembedding task; PDR = pitch direction recognition task; PHD = pitch height discrimination task; PL: pitch labelling task; PM = pitch memory task; PN= pitch naming task; A = auditory; V = visual; C = choice; L = labeling; ASD = autism spectrum disorder; TD = typically developing people; DSM = Diagnostic and Statistical Manual of Mental Disorders; ADOS = Autism Diagnostic Observation Schedule; ADI-R = Autism Diagnostic Interview-Revised; ICD = International and Statistical Classification of Diseases and Related Health Problems; WAIS = Wechsler Adult Intelligence Scale/Wechsler Abbreviated Scale of Intelligence; WISC = Wechsler Intelligence Scale for children; FIQ = Full-Scale IQ; VIQ = Verbal IQ; PIQ = Performance IQ;

PPVT = Peabody Picture Vocabulary Test; BPVS = British Picture Vocabulary Scale; RSPM = Raven’s Standard Progressive Matrices; RM = Raven’s Matrices; M = male; F = female; SCQ = Social Communication Questionnaire; N/A = not available; M = mean value; SD = standard deviation. (2) Information on study characteristics involves only the tasks included into the review.