

Supplementary materials

Table S1

Clinical group detailed description

ID	Age (years; months)	Class	Sex	SES	Autism Assessment	Intelligence assessment*	GSA percentile score
1	6;7	1 st grade	M	80	positive ADOS-2; positive SCQ	FSIQ = 105 (WPPSI-IV)	2
2	6;7	1 st grade	M	17	positive ADOS-2; negative SCQ	NA	44
3	7;1	1 st grade	M	50	positive SCQ ; positive ADI-R	VC = 100; VS = 102; FR = 109 (WISC-V)	27
4	7;2	1 st grade	M	20	positive SCQ	FSIQ = 131 (WPPSI-IV)	94
5	7;2	1 st grade	M	65	positive SCQ	FSIQ = 138 (WISC-V)	92
6	7;7	2 nd grade	M	65	positive ADOS-2; positive SCQ	VC = 98; VS = 102; FR = 112 (WISC-V)	85
7	7;7	2 nd grade	F	43	positive SCQ	NA	71
8	7;8	3 rd grade	M	35	positive ADOS-2; positive SCQ	VC = 114 ; VS = 117 ; FR = 135 (WPPSI-VI)	97
9	8;3	2 nd grade adapted	F	24	positive ADOS-2; positive SCQ	VC = 92; VS = 89; FR = 97 (WISC-V)	62
10	8;6	3 rd grade	M	49	positive ADOS-2; positive SCQ	VC = 95; VS = 105; FR = 118 (WISC-V)	77
11	8;6	3 rd grade	M	54	positive ADOS-2	FSIQ = 105 (WISC-V)	84
12	8;9	3 rd grade	M	84	positive ADOS-2; positive SCQ	FSIQ = 79 (WPPSI-IV)	30
13	8;10	4 th grade	M	60	positive ADOS-2; negative SCQ	FSIQ = 124 (WPPSI-IV)	60
14	9;2	3 rd grade adapted	M	54	positive ADOS-2	FSIQ = 88 (WNV)	46
15	9;4	4 th grade	M	58	positive ADOS-2; positive SCQ	VC = 98; VS = 102; FR = 112 (WISC-V)	66
16	9;10	4 th grade	M	50	positive ADOS-2; positive SCQ	FSIQ = 92 (WISC-V)	48

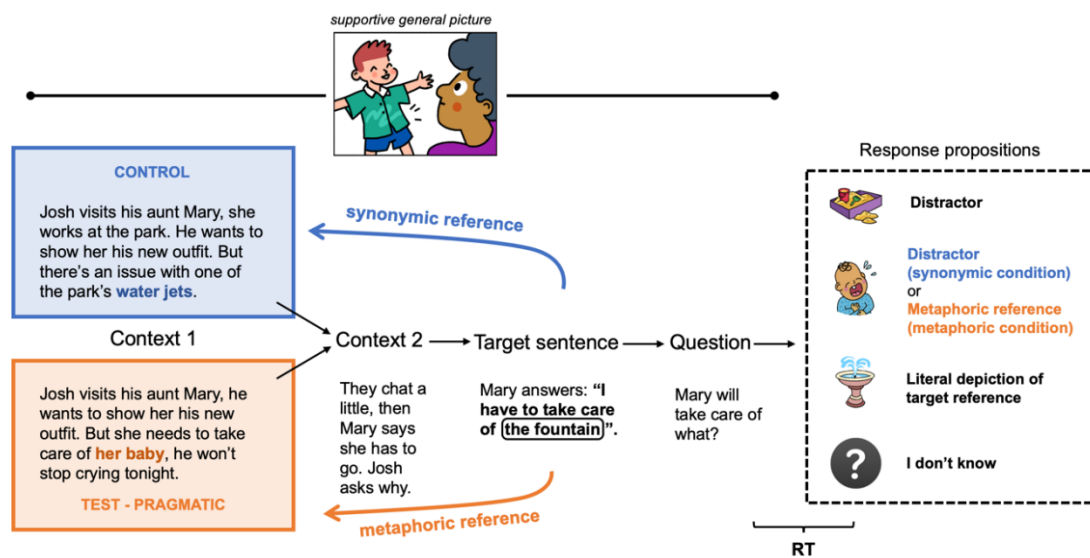
17	10;0	4 th grade	F	62	positive ADOS-2; positive SCQ	FSIQ = 100 (WISC-V)	66
18	10;1	4 th grade	M	61	positive ADOS-2; positive SCQ	VC = 86; VS = 102; FR = 85 (WISC-V)	62
19	10;3	4 th grade adapted	M	72	positive SCQ	VC = 118; VS = 138; FR = 118 (WISC-V)	3
20	10;4	5 th grade	M	47	positive ADOS-2; negative SCQ	FSIQ = 112 (WISC-V)	45
21	10;6	5 th grade	M	56	positive ADOS-2; negative SCQ	FSIQ = 115 (WPPSI-IV)	75
22	10;7	5 th grade	M	64	positive SCQ	FSIQ = 127 (WISC-V)	69
23	10;8	5 th grade	M	54	positive ADOS-2	FSIQ = 121 (WISC-V)	75

* FSIQ is reported when available. If not, other available summary values are reported. The tests used to provide these measures are detailed.

Abbreviations used: SCQ = Social Communication Questionnaire; ADOS-2 = Autism Diagnostic Observation Scale 2nd Edition; FSIQ = Full Scale Intelligence Quotient; VC = Verbal Comprehension; VS = Visuo-Spatial; FR = Fluid Reasoning; WPPSI-IV = Wechsler Preschool and Primary Scale of Intelligence, Fourth Edition; WISC-V = Wechsler Intelligence Scale for Children, Fifth Edition; WNV= Wechsler Nonverbal Scale of Ability; GSA = General Sequencing Abilities from Petit et al. (2024).

Figure S1

Représentation of the structure of an item of the metaphor task (translated from French)



Box S1

Model description for the response times analysis of the scalar task

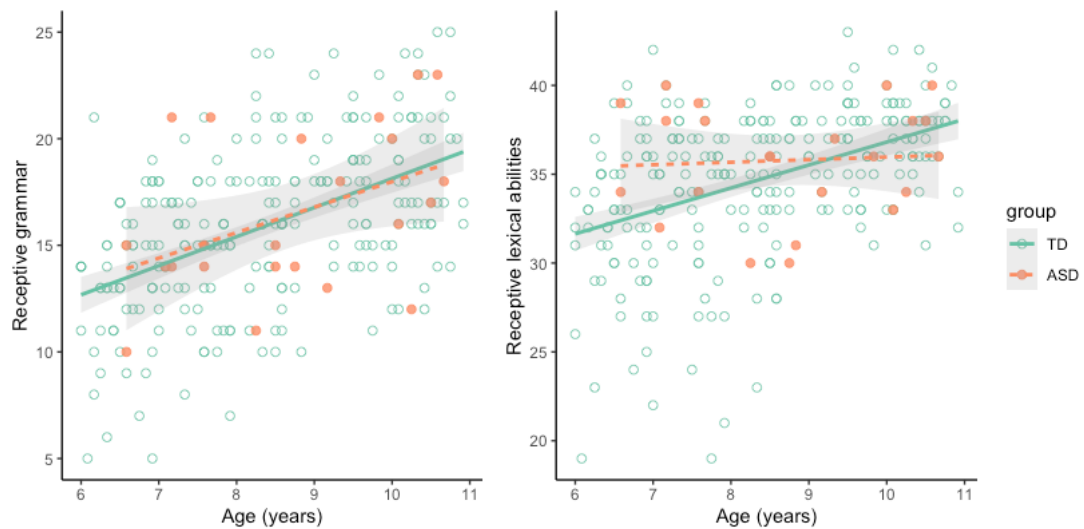
In the scalar task, we are interested in the effects of *group* and *response-type* (pragmatic / semantic / control) on response times. However, response times are measured between the desambiguating phoneme of the instruction and validation by the participant, after modifications in the setting (if necessary). Therefore, comparing pragmatic responses (where fruits had to be moved) to semantic responses to critical items (where no fruits had to be moved), and to responses to control situations (responses to control quantifiers, where both situations happened) implies to control for these potential confounds. This was done, following the rationale we employed to study typical development ([reference masked for review]), by adding as fixed effects to the model:

- whether participants directly validated or not (*directValidation*, binary variable), since both cases arguably involve different decisions;
- the number of fruits that were moved in the trial (*moves*, continuous variable from 0 to 5), to account for the time spent in applying these changes, as the absolute difference between the initial setting (say, 3 plates filled) and the child's response (say, 5 plates filled, $moves = ABS(3-5) = 2$).

The model thus included as fixed effects *group* (NT / ASD) and *response-type* (pragmatic / semantic / control) and their interaction, as well as *directValidation* and *moves*. For the most conservative control, the two latter were also included as random slopes for participants, and *group* as a random slope for items.

Figure S2

Scatter plots of all participants' performances and linear regressions of receptive grammar (left) and receptive lexicon (right) against age and group, revealing no significant group main effect or interaction

**Figure S3**

Histogram of individual pragmatic interpretation rates in each group, revealing bimodal distributions in both cases

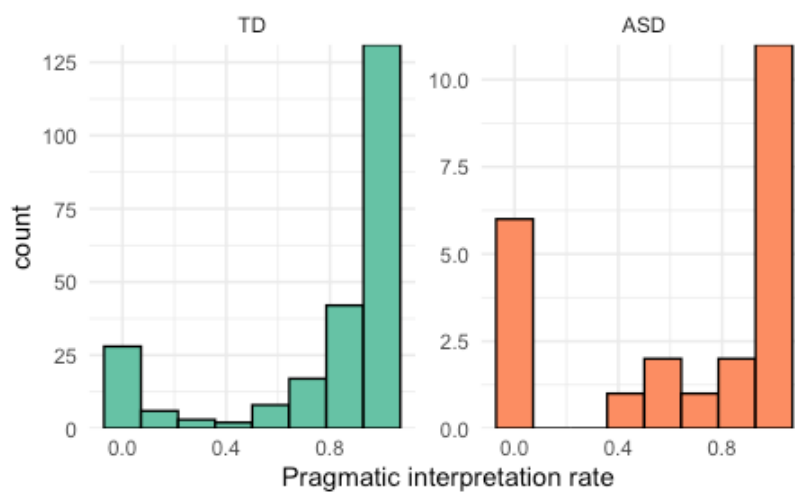


Table S2

Output from the main model explaining response times in the metaphor task

LOG(RT)			
PREDICTORS	Estimates	CI	p
(INTERCEPT)	7.99	7.93 – 8.05	<0.001
GROUP	0.21	0.11 – 0.32	<0.001
CONDITION	-0.16	-0.27 – -0.04	0.007
GROUP * CONDITION	0.03	-0.10 – 0.15	0.643
RANDOM EFFECTS			
Σ^2	0.15		
T ₀₀ PARTICIPANT	0.04		
T ₀₀ ITEMID	0.01		
ICC	0.25		
N _{ITEMID}	12		
N _{PARTICIPANT}	260		
OBSERVATIONS	2125		
MARGINAL R ² / CONDITIONAL R ²	0.045 / 0.282		