

## Supplementary material 1.

The definitions of common dependency relations from <https://universaldependencies.org/en/dep/>. See the link for the full list of abbreviations.

**Table S1.** The abbreviation list of common English dependency relations and their definitions

nsubj	nominal subject	A nominal subject is a nominal which is the syntactic subject and the proto-agent of a clause
nsubjpass	passive nominal subject	A passive nominal subject is a noun phrase which is the syntactic subject of a passive clause
obj	object	The object of a verb is the second most core argument of a verb after the subject.
iobj	indirect object	The indirect object of a (verbal) predicate is the nominal which is the dative object of the verb
ccomp	clausal complement	A clausal complement of a verb or adjective is a dependent clause with an internal subject which functions like an object of the verb or adjective.
xcomp	open clausal complement	An open clausal complement of a verb or an adjective is a predicative or clausal complement without its own subject
acl	clausal modifier of noun	Clausal modifier of a noun is used for finite and non-finite clauses that modify a noun.
acl:relcl	relative clause modifier	A relative clause modifier of a noun is a relative clause modifying the noun
nmod	nominal modifier	The nominal modifier relation is used for nominal modifiers of nouns or clausal predicates
amod	adjectival modifier	An adjectival modifier of a nominal is any adjective or adjectival phrase that serves to modify the meaning of the nominal
det	determiner	A determiner is the relation between the head of an NP and its determiner
case	case marking	The case relation is used for any preposition in English
advcl	adverbial clause modifier	An adverbial clause modifier is a clause which modifies a verb or other predicate (adjective, etc.), as a modifier not as a core complement
neg	negation modifier	The negation modifier is the relation between a negation word and the word it modifies
aux	auxiliary	An aux (auxiliary) of a clause is a function word associated with a verbal predicate that expresses categories such as tense, mood, aspect, voice or evidentiality
root	root	The root grammatical relation points to the root of the sentence

## Supplementary material 2.

Table S2. Multinomial logistic regressions to classify each of the four groups with leave-one-out cross-validation

#	Model	classification accuracy, AIC of the model	classification accuracy, AIC of the model adding sentence length as a predictor	classification accuracy, AIC of the model adding sentence length and word frequency as predictors
1	subtype ~ sentence length	55%, 270	-	67%, 188
2	subtype ~ maximum incomplete dependencies	53%, 294	58%, 269	68%, 190
3	subtype ~ POS entropy	51%, 292	61%, 223	66%, 180
4	subtype ~ dependency distance	52%, 298	58%, 264	67%, 191
5	subtype ~ noun/(noun + verb)	50%, 312	67%, 242	76%, 184
6	subtype ~ syntax frequency	49%, 295	59%, 236	67%, 189

AIC is reported for each model.

### Supplementary material 3. The filtering process for the audio transcripts

We followed the CHAT Transcription Format (1); some details of that format are missing (e.g., which words and markers fall into each category) so we elaborate all of what we did, so that others can follow the same procedure later).

The following categories were *automatically* removed from utterances and further analyses.

- Conjunctions at the beginning of an utterance and the following starters (2, 3): “And”, “But”, “Well”, “Ok”, “Yeah”
- Disfluencies (1): “uh” and “um”

The following categories were *manually* removed from utterances and further analyses.

- Fillers or idiosyncratic discourse markers: “I mean”, “I don’t know” (4); “you know” (1)
- Word level repetitions (5)
- Comments about the task such as “this is difficult” (3)
- Direct answers to questions (2) or any utterances that are cued by the examiner (3)
- Meta-cognitive and meta-linguistic comments such as “I can’t recall this”, “I think so” (5, 6)

### References

1. B. Macwhinney, Tools for Analyzing Talk, Part 1: The CHAT Transcription Format (2019) <https://doi.org/10.21415/3MHN-0Z89> (July 19, 2021).
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4. L. Meteyard, E. Quain, K. Patterson, Ever decreasing circles: Speech production in semantic dementia. *Cortex J. Devoted Study Nerv. Syst. Behav.* 55, 17–29 (2014).
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