

Supplemental Material S2. Codes and definitions for Codes for Human Analysis of Transcripts (CHAT) system.

Phonological Analysis:

False Starts: [&]

- When the word is not finished (the word is left unfinished). Note: Listening to the audio files with headphone/earbuds helps with hearing false starts that aren't heard using the computer speaker.
 - Example: I **&wa** want to the store.

Phonological Paraphasias: [* p]

- The substitution of a word with another word or non-word that preserves at least half of the segments and/or number of syllables of the intended word
 - Example: The mice wanted to **<heat> [* p]**
 - **Note: do not code common colloquial versions of a word (ex: 'gonna' for 'going to' , 'cause' for 'because')**

Neologisms: [* n]

- A substitution of a word for a gibberish word
 - Example: she had all her **gʌæstɪdʒɪz@u [* n]** β (add @u to error)

Lexical Analysis:

Lexical Fillers: [* fil]

- When a word or phrase adds no meaning to the story.
 - Example: **<well> [* fil]** the mouse family decided to go on a picnic
 - Example: the mouse ran **<I think> [* fil]** into the forest *
 - Example: **<It look like>[* fil]** the mouse is running into the forest.
 - *Note: Do not count "I think/I believe/I feel etc for expository discourse (DrivingLang, NoiseLang)

Repetitions [/]

- When a word or phrase is repeated
 - Example: He felt a **<little> [/]** little scared
 - Example: **<He felt> [/]** he felt a little scared
- Note: do not code repetitions if the participant is using repetition as a rhetorical device and you can tell they meant to do it, such as the house was really really big when describing a massive house. Often the person who transcribes the discourse will go ahead and mark these as repetitions so be on the lookout for this and change if necessary. (ex: he ran and he ran and he ran all the way down the tunnel)

Rephrase/Revision [/]

- When a sentence or phrase is rephrased or restructured.
 - This could be syntactic-Example: **<he felt a little> [/]** the boy feels scared
 - It could also be semantic-Example: a family of **<rats no> [/]** mice.

- Note- the person who does the transcription will often go ahead and put the rephrasals in as they transcribe but sometimes they don't so if something looks like it needs to be a rephrasal to make sense, go ahead and code it.

Semantic Paraphasias [* s:r]

- The substitution of a word on the basis of a meaning between the two words
 - Example: The mice got into the <van> [: truck][* s:r]
 - **Also, in story retell tasks, we have been coding incorrect names as a semantic paraphasia. <Bob> [* s:r] went to the baseball game. (instead of George)**
- Note: sometimes there can be a question of whether a misused word should count as a semantic paraphasia or a semantically anomalous utterance. If you feel that the participant simply used the wrong word but understands what's going on in the story, code it as a semantic paraphasia. If you think the participant has misinterpreted what's going on in the story, code it as semantically anomalous (ex: the many people who think that the dog in 'flowerpot' is an elephant)

Passe-partout words [* ppw]

- The substitution of a word for a general referent (*something, someone, somehow*)
 - Example: There is <something> [* ppw] on the table. (Couldn't remember word for book potentially, just depends on context.)

We won't use this code every time we see something, someone, or somehow.

This code is used when there is a clear substitution of the more specific referent.

Grammatical and Morpho-syntactical Analysis:

Substitution of Function Words (Closed Class Words) [* f]

- When a function word is changed for another function word. (e.g., he, she, it, in, on, the, a, etc.)
- This includes the incorrect use of pronouns, which is common in the aphasia files.
 - Example: I went <on> [* f] the circus. (should've said to)
 - Example: <He> [* f] talked to the manager. (when talking about a woman)

Substitution of bound Morphemes: [* m]

- Typically the incorrect tense or plurality. Basically, any grammatical error will be coded as [* m]
 - Example: They will <eats> [* m] the sandwiches and cupcakes.
 - Example: The <mice> [* m] fell out of the truck.
 - Example: They had a <trucks> [* m]

Omission of Function Words (Closed Class Words) [* ofw]

- The missing of a closed class word (e.g., he, she, it, in, on, the, a, etc.)
 - Example: [* ofw] cat ran down [* ofw] hallway

Content Omission [* oc]

- The missing of any content.
- If the person ends a sentence or phrase after the verb, we code it as an aposiopesis and content omission
 - Example: [* oc] ran into the attic. β We need to know what ran into the attic
 - Example: I hate +... [* ap][* oc]. β We need to know what they hate

Marco-Linguistic Analysis:

Wrong use of Cohesive Markers [* cm]

- Cohesive markers are linking words/phrases that signal the relationship between sentences.
 - Example: using 'all of a sudden' when it doesn't make sense to do so.
 - Example: <so therefore>[* cm] just because the bible and that might go back to separation between church and state may . . .
 - Example: the little baby mouse holds his little toy very tightly so that he doesn't <at least>[* cm] lose him too
- Anaphoric References between utterances
 - Example: They were fighting. / So <he>[*mr][* cm] hit <him>[* mr][* cm].
- Misuse of number and gender agreement between pronouns or noun phrases across utterances
 - Example: The family didn't care about mouse. / <It>[* mr][* cm] was too busy with the picnic. β It refers to the family, so this is a disagreement in number.

Aposiopesis [* ap]

- The leaving of a thought incomplete; a sudden breaking off in a sentence
 - Example: I [* ap] +//.
 - Example: I want [* ap] [* oc] +...

Ambiguous Referent (existing words) [* mr]

- When the listener cannot tell what 'he'/'she'/'it' refers to
 - *note- we are not overly strict about this. If the participant uses 'he' without specifically telling us who 'he' is, we don't code it as long as we can reasonably tell who it refers to by looking at the book's pictures.
 - Do code in cases where you're not sure who the pronoun refers to even after looking at the pictures. (Ex: **He jumps on the bed and plays with the mother's jewelry.** We can't tell who is doing this since Carl and the baby are both jumping and playing).
 - If the participant gives the character's name but then changes the names throughout the story, this is also an ambiguous referent.

Missing Referent (omission) [* mro]

- When there is a missing referent

- Example: *SUB: an(d) the truck keeps going [* mro] doesn't even know that she has fallen off .

Filler Utterances [* uf]

- When a filler extends to the whole utterance. Often this will be cases of the participant giving their own commentary on the story.
 - Example: **<What a beautiful day the mice are having> [* uf].**
<This story is really confusing> [* uf].
<I don't know> [* uf].
- Note: do not code the following as fillers:
 - Introductory statements (ex: This book is called Picnic) or closing statements (ex: The end)
 - Questions that the participant asks before beginning the story/answering the expository question

Repetitions of Utterances [* s:per]

- When an utterance is repeated
 - Example: **<I ran into the tree> [* s:per]. I ran into the tree.**
 - **If a participant says essentially the same thing twice, you can still code it as a repetition even if the wording is not exactly the same and even if the utterances do not occur back-to-back. These do get a little tricky in terms of knowing which utterance to code (first or second). Usually for repeated utterances, we code the first utterance and keep the second. But if the utterances are separated, it is usually best to code the second utterance. For example:**
 - **I went there yesterday. It was nice. <I went there yesterday> [* s:per].**

Conceptually Incongruent Utterances [* exc]

- When an utterance or phrase does not make sense within the context of the story.
 - Example: **<the mice abandoned the baby because they deeply hated her face.> [* exc]**
 - For the expository, [* exc] codes don't happen often but if a participant says something that is incompatible with his own argument, code it as [* exc].
 - **Example- SUB: <I think healthcare is a right> [* exc]**
SUB: but if people can't afford healthcare, they shouldn't get to have it.
Par: The woman goes to <either take the book back or to buy it> [* exc].

- Sometimes a participant will say something incorrect but then go back and correct it. If this occurs in the same c-unit, code as a rephrasal. If it occurs across c units, code the incorrect parts as [* exc] and leave the correct parts alone.

Example- SUB: <she making the pancakes> [* exc]

SUB: <nevermind> [* fil] Shes thinking about making the pancakes

Tangential Utterances [* tu]

- A phrase or utterance that is off-topic/doesn't relate to the stimulus.
 - Example: The mouse went to the store. <I need bread for my dinner party on Friday>[* tu].
 - <I'm sorry> [* tu] is also a common example.
 - For expository, code as tangential if the participant is giving information that doesn't answer the question (Ex: someone who tells you all about their last doctor visit without linking it to the question of whether healthcare is a right or privilege).