

Evidence or cause? Children's interpretations of French *parce que* across readings

Most studies on the acquisition of evidentiality have focused on morphemes marking the type of information source in various languages such as Turkish, Korean or Tibetan (Aksu-Koç 1988, Papafragou et al. 2007, 2016; de Villiers & Garfield 2017, i.a.). Only few examined syntactically encoded evidentiality (Winans et al. 2015; Angelopoulos et al. 2023, i.a.). This study provides the first experimental investigation of French evidential causal clauses, testing the acquisition of clauses such as (1), which provide evidence for a belief rather than expressing a standard cause.

(1) The cat broke the vase, because the pieces are on the floor. [Evid-deductive]

Background. Evidential (or 'epistemic') causal clauses differ from standard factual causal clauses like (2) in both meaning and syntax (Rutherford 1970, Groupe λ-1 1975, Sweetser 1990, Sæbø 1991, Zufferey 2012, Charnavel 2019, i.a.).

(2) The pieces are on the floor because the cat broke the vase. [Fact]

First, causal clauses as in (1) provide evidence supporting a belief while those as in (2) express the cause of an event or state. Thus, evidential clauses contribute indirect evidence rather than causal explanation.

Second, several diagnostics like clefting in (3) vs. (4) show that unlike factual clauses, evidential clauses are not-at-issue (Charnavel 2020, i.a.).

(3) # It is because the pieces are on the floor that the cat broke the vase. [Evid]

(4) It is because the cat broke the vase that the pieces are on the floor. [Fact]

Third, evidential clauses attach structurally higher than factual clauses illustrated by contrasts in scope as in (5) vs. (6), pronominal binding or NPI licensing (Rutherford 1970, Groupe λ-1 1975, Johnston 1994, Charnavel 2019, i.a.).

(5) # The cat did not break the vase because the pieces are on the floor. *not > Evid

Intended: the pieces on the floor are not a piece of evidence for the cat breaking the vase.

(6) The pieces are not on the floor because the cat broke the vase. not > Fact

Intended: the cat breaking the vase is not a cause for the pieces being on the floor.

These contrasts motivate an EvidP attachment (Charnavel 2019, 2020), above negation and epistemic projections (cf. Cinque 1999, Speas & Tenny 2003), while factual clauses attach to VP, a difference also reflected in their intonation (see the indicative use of comma).

Our study – We tested the understanding of various French causal clauses (illustrated here in English for simplicity) in children aged from 3 to 7 and adults using a truth value judgement task. First, we distinguished between factual causal clauses like (2) and evidential causal clauses like (1). To minimally compare them, all sentences used the connector *parce que* '≈ because'. Second, we used two types of evidential clauses: deductive as in (1) and correlative as in (7) (cf. Pander Maat & Degand 2001, i.a.).

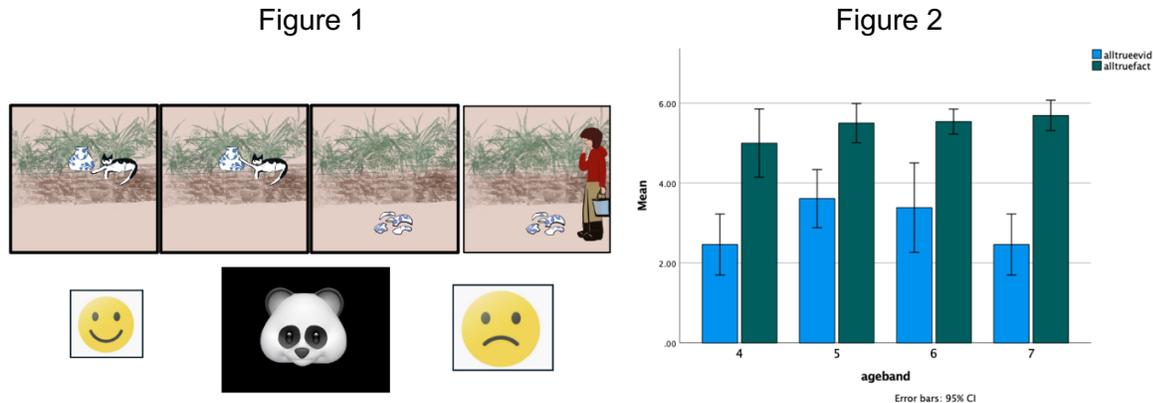
(7) Liz leaves for her dance class, because the garbage truck is passing by. [Evid-correlative]

The *because*-clause in (1) expresses the common consequence of a fact as piece of evidence for the speaker to deduce the content of the matrix clause: we can conclude that the cat broke the vase because of the pieces on the floor. In (8), the *because*-clause instead uses an event correlating in time as evidence: we can conclude that Liz is leaving for her dance class, because she always leaves at the same time the garbage truck passes by. Crucially, the distinction between these two types of clauses aims at controlling for clause order that younger children may not pay attention to (Piaget 1924, Hood & Bloom 1979, Hunt 1996, i.a.): reversing the clause order of a sentence with a deductive clause gives rise to a sentence with a factual causal clause (see (1)-(2)); but a correlative clause behaves evidentially in each direction of clause order (see (7)-(8)).

(8) The garbage truck is passing by, because Liz is leaving for her dance class. [Evid-correlative]

In sum, we tested 24 items varying equally across the following criteria: (i) factual or evidential clause; (ii) true or false; (iii) factual or evidential in reverse order; (iv) true or false in reverse order.

Procedure – Native-French-speaking children heard 8 illustrated stories (on Powerpoint), after which 3 different Animojis commented on the story, and the child had to point to a smiling or frowning face depending on whether they agreed or not (see Figure 1). **Participants** – After exclusion of 9 participants failing control items, we analyzed the data of 13 4-year olds, 18 5-year olds, 13 6-year olds and 13 7-year olds, as well as a control group of 28 adults.



Results and discussion – Children performed less well on evidential causal clauses than on factual causal clauses ($F(1,53)=134$, $p<.001$, Figure 2), which is expected given the comprehension lag detected in the acquisition of evidentiality, the fact that these clauses seem to require more complex reasoning about belief and ToM abilities (cf. Zufferey 2010) and involve higher syntactic projections. Also as expected, younger children made more inversion errors, independently of evidentiality: for example, the correct rejection of false factual clauses that are factually true in reverse increases steadily over age while the judgement of false factual clauses that are also false in reverse, remains more stable ($F(1,80)= 4.0$, $p<.005$).

Less expectedly, correlative evidentials are accepted more readily than deductive evidentials ($F(1,53) = 25.5$, $p<.001$) and remain stable with age, while the acceptability of deductive clauses decreases at age 7. This suggests that the correlative clauses are not interpreted as evidential clauses, but rather as loose factual causal clauses.

This is also consistent with the fact that adults (i) divide into two populations with respect to deductive evidentials, one rejecting them, and the other accepting them; (ii) tend to accept deductive evidentials more than correlative ones. We interpret these results as meaning that some adults reject evidential (vs. factual) *parce que*-clauses because of a competition with other connectors like *puisque* or *car* (see variability in the acceptability of *parce que* vs. *car/puisque* under evidential uses, Zufferey 2012, i.a). Because *car/puisque* tend to be used in a higher register and in the written modality, they are acquired later by children (see corpus study in Zufferey 2010).

Conclusion Children acquire factual causal clauses before evidential causal clauses. Four- to five-year olds appear to understand evidential clauses only because they reinterpret correlative evidentials as loose factual causal clauses, and reinterpret deductive evidentials as factual clauses in reverse. Children acquire evidential causal clauses with *parce que* before those with *puisque/car*, which are of a higher register. But once the latter are acquired, children are expected to divide into two populations, one accepting evidential clauses only with these connectors, the other accepting these clauses with *parce que* too, as observed in our adult controls.

Selected references – Angelopoulos, Bagioka & Terzi 2023. Exploring syntactically encoded evidentiality. *Language Acquisition*; Charnavel 2019. Point of View on Causal Clauses: the case of French *parce que* and *puisque*. *RLLT15*; Groupe λ-1. 1975. *Car, parce que, puisque*. *Revue Romane*; Pander Maat & Degand 2001. Scaling causal relations and connectives in terms of speaker involvement. *Cognitive linguistics*; Papafragou, Li, Choi & Han 2007. Evidentiality in language and cognition. *Cognition*; Sæbø 1991. Causal and Purposive Clauses. *HSK6*; Zufferey 2010. *Lexical Pragmatics and Theory of Mind – The acquisition of connectives*; Zufferey 2012. *Car, parce que, puisque* revisited: Three empirical studies on French causal connectives. *Journal of Pragmatics*.