

What must a child know in order to show adult-like pronoun interpretation biases in “implicit causality” sentences such as (1-2)?

(1) Abigail frightened Beatrice because she... [*she*=Abigail]

(2) Abigail liked Beatrice because she... [*she*=Beatrice]

Many researchers have focused on verb class (Rudolph & Forsterling, 1997). Based on the verb class, the listener can determine who the likely cause was. For instance, the cause of experiencer-object verbs like *frighten* is the subject, whereas the cause of experiencer-subject verbs like *like* is the object. The pronoun bias follows from the fact that explanations usually invoke causes.

The data supporting this claim are correlational: certain verb classes and pronoun biases typically co-occur. To test for a causal role for verb class in implicit causality, I presented adults with definitions for novel verbs (e.g., “gorp”) that described emotions for which there is no existing verb in English (e.g., “a warlike or aggressively hostile nature, condition, or attitude”). For each verb, I first asked the participant to use the verb in a sentence to describe a scenario in which one person (e.g., Abigail) felt that emotion about another (e.g., Beatrice). Their response indicated whether they interpreted the verb as an experiencer-subject (*Abigail gorped Beatrice*) or experiencer-object (*Beatrice gorped Abigail*) verb.

Next, the participant was presented with an implicit causality sentence containing the novel verb

(3) Carl gorped Abigail because...

and was asked to determine whether the next word should be *he* or *she*. Adults were more likely (*Wald’s*  $z=5.2$ ,  $p=.05$ ) to respond “he,” indicating a subject-bias, for verbs they had treated as experiencer-object (61%) than for verbs they had treated as experiencer-subject (46%).

This indicates that in acquiring adult-like implicit causality pronoun biases, children need not track the statistics of individual verbs but merely learn the effects of verb class.

### References:

Rudolph, U., & Forsterling, F. (1997). The psychological causality implicit in verbs: A review. *Psychological Bulletin*, 121, 192-218.