

## Pronoun Interpretation with Referential and Quantified Antecedents in the Second Language

The Delay of Principle B Effect (DPBE) is a well-known interpretive phenomenon in child language acquisition (Crain & McKee (1985); Jakubowicz 1984, 1989; Wexler & Chien 1985, a.o.): children are often at chance when interpreting sentences with pronouns, while showing no delay in interpreting reflexives. Chien and Wexler (1990) reported that children are much more accurate with quantified antecedents of pronouns (e.g. *Every bear is touching her*) than with referential antecedents (e.g. *Mama Bear is touching her*). It was also discovered that children in languages with clitics do not demonstrate the DPBE (Baauw et al. 1997). This difference was attributed to the lack of accidental coreference (Reinhart 1983, see ex. 1) for clitics. Conroy et al. (2009) argued that the delay is probably a methodological artifact, but a recent study, Hartman, Sudo & Wexler (2012), established that English children were significantly more adult-like when they heard a reduced English pronoun (purportedly a clitic) as opposed to a full pronoun, 80.6% vs. 52.8%. The DPBE has not been studied widely in L2 acquisition (White 1998 is an exception) but a recent eye-tracking study (Kim et al 2012) suggests an advantage for reflexives over pronouns in L2A as well.

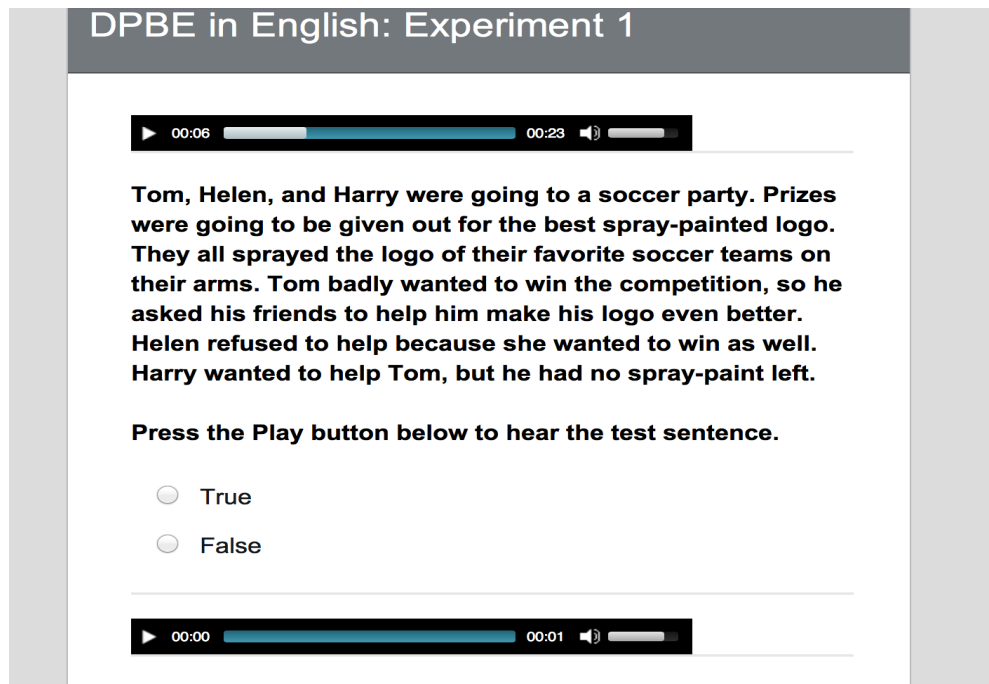
If the DPBE reflects difficulties due to an elevated processing load (Reinhart 2006), then a similar difficulty of interpretation is predicted for (non-advanced) L2 learners, attributed to the effects of bilingualism (Sorace 2011). Even if L1 transfer of French clitics facilitates acquisition of this phenomenon, at least as far as reduced pronouns are concerned, we expect to see differences in accuracy on full versus reduced pronouns, just like in English-native children.

To investigate this issue, we set out to establish whether learners of English with L1 French correctly interpret sentences with reduced and full pronouns bound by referential and quantificational antecedents. French is a language with clitics where the DPBE arguably does not apply (Zesiger et al 2010). We created a Truth Value Judgment Task, administered online; context stories were presented visually and aurally but test sentences were only aurally presented. The test includes 24 story-test sentence combinations: 8 with referential antecedents (see Figure 1), 8 with quantificational antecedents (ex. 2), and 8 fillers. Each story contains multiple event participants and is compatible with a reflexive as well as a pronominal construal. Within each condition, 4 sentences have a Yes answer and 4 have a No answer. Experiment 1 tests reduced pronouns and Experiment 2—full pronouns.

Accuracy of 8 English adult native speakers and 8 learners on Experiments 1 and 2 is presented in Table 1. The high accuracy of adult natives is expected and validates our test instrument. We are continuing to test native speakers and intermediate learners of English in each experiment. We are already seeing the expected tendencies, but only with full pronouns (Experiment 2). Among L2 learners, we anticipate a discrepancy in accuracy on reduced versus full pronouns, in accord with analyses predicting that full pronoun interpretation strains processing resources. Among native speakers, elevated individual variation on full pronouns may also emerge.

(1) Example of accidental coreference, a legitimate way of achieving coindexation:  
 From the movie *Side Effects*, spoken by a psychiatrist to explain an accident with a patient: *The patient blamed me. The patient's husband blamed me. Even I<sub>i</sub> blamed me<sub>k</sub>.*  
 (where  $i = k$  accidentally)

Figure 1: Screen shot of experimental design. The referential test sentence in this example is *Harry sprayed'm* in Experiment 1 and *Harry sprayed him* in Experiment 2



(2) Example of a quantificational antecedent story and test sentence

Jim, Jack, and Bert always drive to college, each of them using his own car. Their friend John doesn't own a car so Jim, Jack, and Bert all agreed to drive him to school. But this week, on Monday Jim forgot to pick John up. On Tuesday, Jack overslept and drove to class alone. Only Bert was true to his word and drove John to school on Wednesday.

*This week, every student drove 'm/him to school.*

Table 1: Accuracy on reduced and full pronoun interpretation with referential and quantificational antecedents (combined Yes and No responses)

	Reduced Pronouns		Full pronouns	
	Referential antecedents	Quantificational antecedents	Referential antecedents	Quantificational antecedents
English NSs (n=4)	100%	93.75%	90.625%	93.75%
French-native learners of English (n=4)	91.66%	87.49%	84.375%	90.625%

Note: Mean accuracy on fillers is 98.33%.