

Middle-School Language Immersion Learners' Comprehension of Plural-Singular Marking: Acquisition across a Typologically Distinct Language Pairing

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1. Introduction

Background:

- Classroom language immersion learners are more likely to demonstrate L2 accuracy within L1-speaker ranges for comprehension tasks than for production tasks, suggesting an asymmetry between L2 production and comprehension.
- Measurement of comprehension and production are done at different levels of scrutiny, with comprehension tasks measuring holistic understanding, and production tasks targeting particular morphosyntactic features.
- One previous eye-tracking study has reported differing comprehension of abstract grammatical gender by L2 learners after 5-6 years of Spanish immersion (Lew-Williams, 2017).

Research Question:

- For plural-singular marking, a semantically transparent L2 feature absent in the L1, do language immersion learners show monolingual-equivalent comprehension on tasks measuring online comprehension?

2. Method

Participants:

L2s: 35 English immersion learners in Northern Taiwan. L1 = Mandarin; Age = 13;9; Age of Immersion = 4;6; Years of Immersion = 8;5; PPVT score 78.6 (15.6).

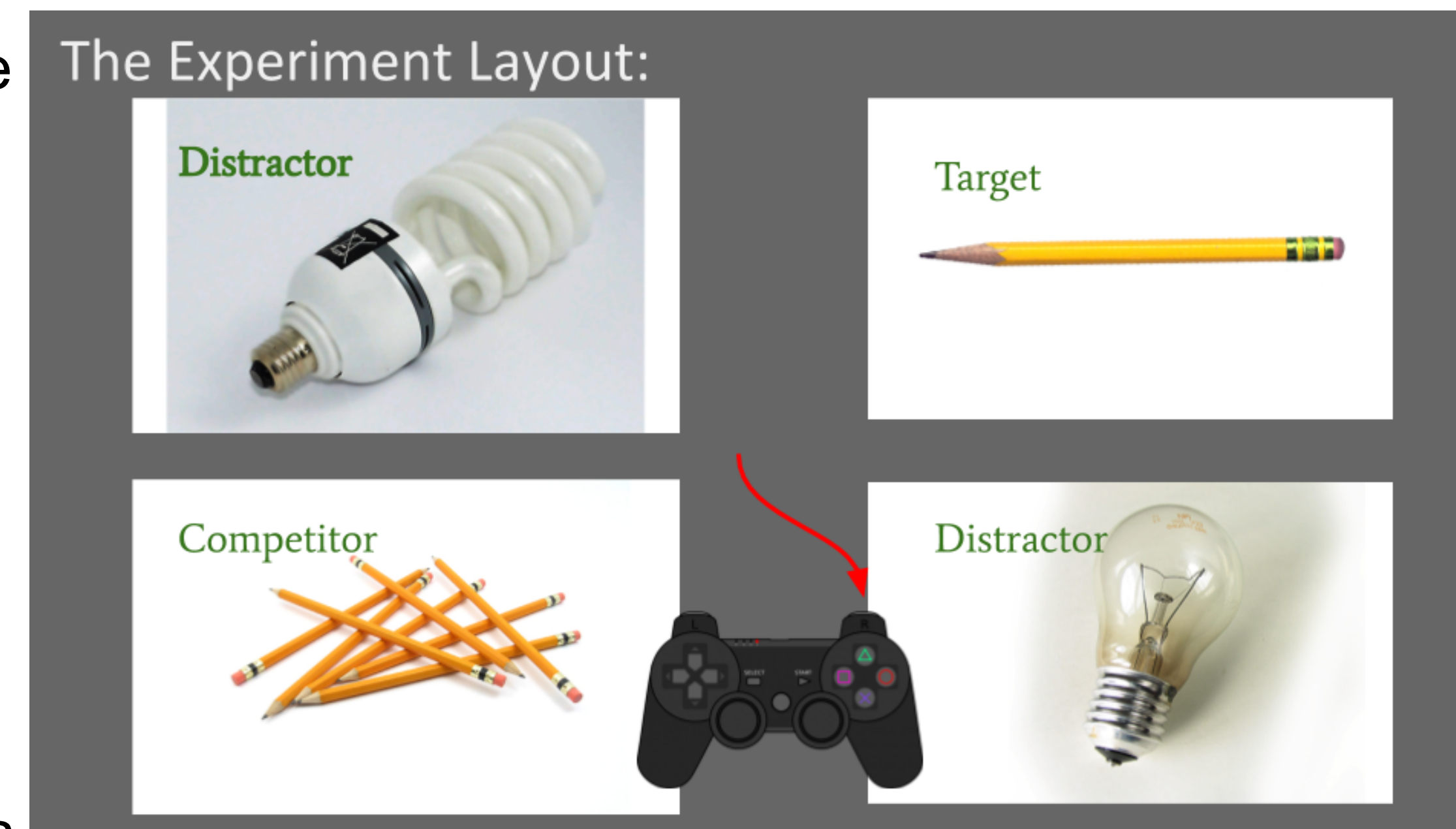
Monolingual English: 21 Canadians; Age = 13;6; PPVT score 110.7 (16)

Tasks:

Picture Decisions: Button responses indicating whether the target image is on the left or right side of screen.

Visual-world Eye-tracking: Eye gaze tracked while listening to an audio stimulus and completing picture decision.

Fig. 1: Visual-World/Picture Decision Task



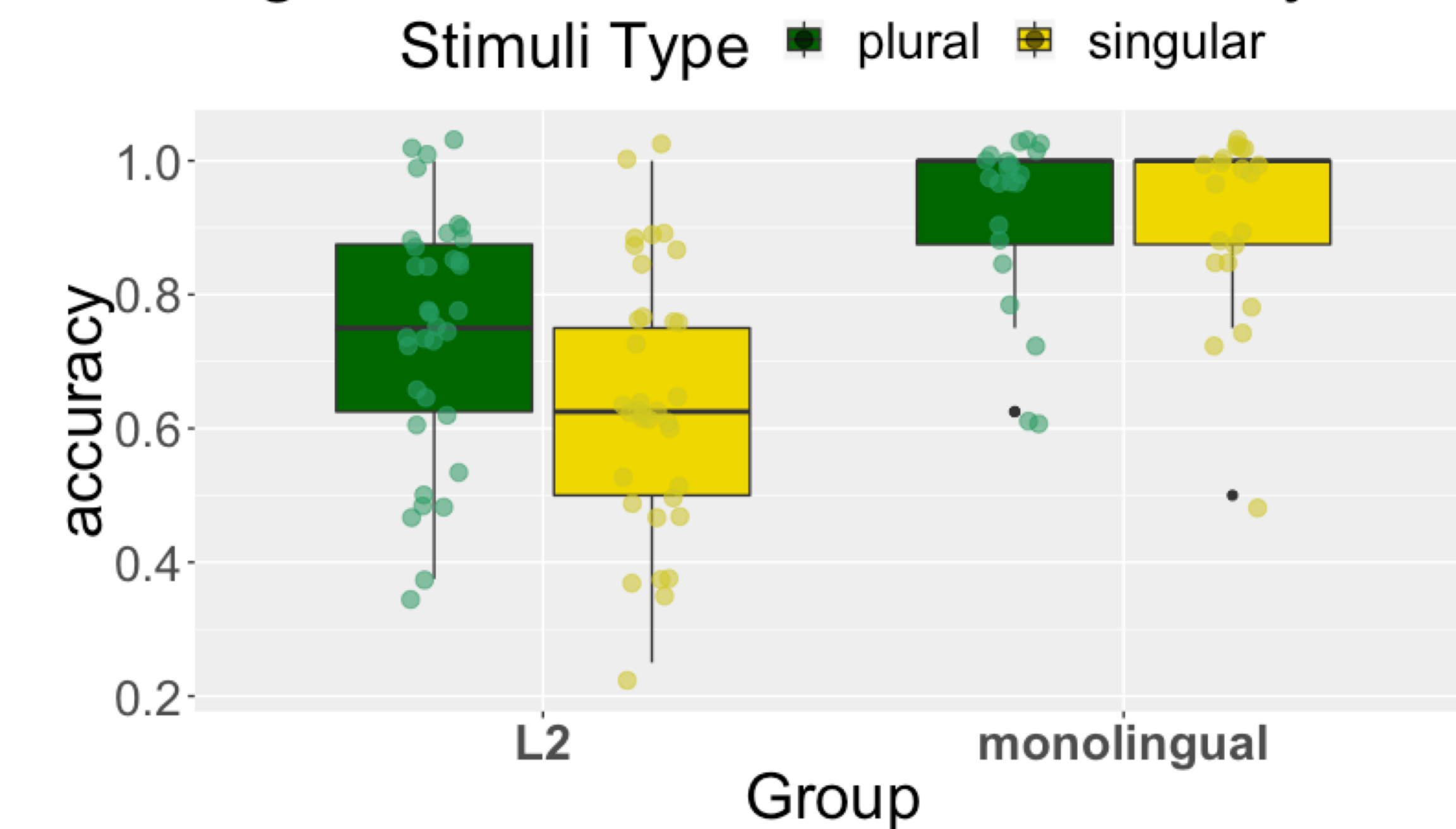
Audio Stimulus:

'The pencil can be used for writing the test.'

All stimulus nouns were presented in subject position and in plural and singular forms counterbalanced across lists.

3. Pic.-Decision Results

Fig. 2: Picture-Decision Accuracy



L2 participants 70% (14%) accurate across stimuli types with monolinguals 92% (12%) accurate. Results of binomial generalized linear model showed both participant group and receptive vocabulary (PPVT), but not stimulus type, impacted accuracy.

4. Visual-World (VWP) Results

Fig. 3: Looks over Time After Cue Onset: Plural vs. Singular

Interest Area — Target — Competitor — Distractor 1 — Distractor 2

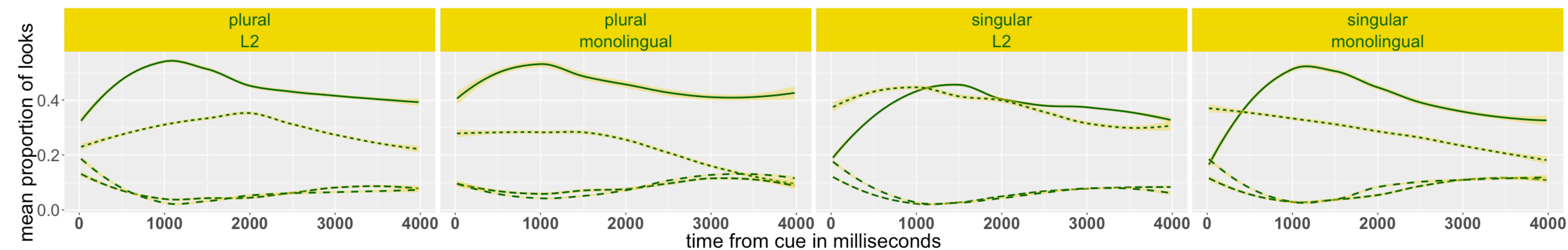
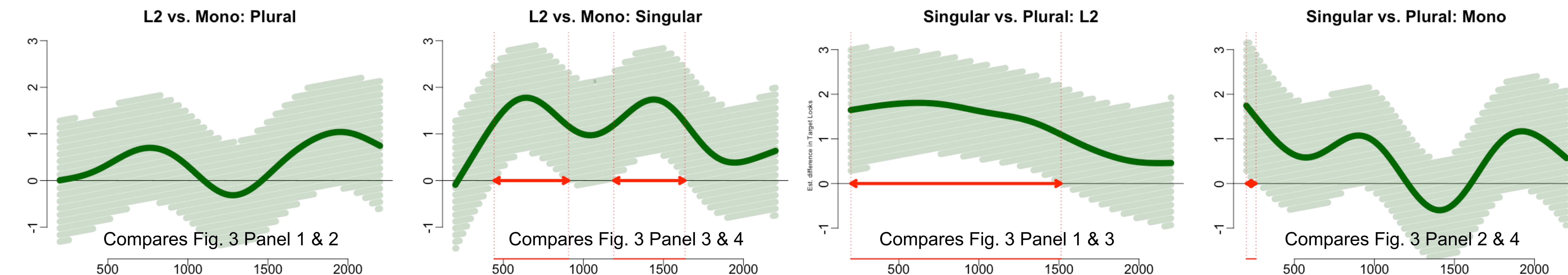


Fig. 4: Statistical Comparisons for Looks to Target vs. Competitor Image



Note: These plots compare the differences between looks to target vs. competitor images across the 4 conditions in Figure 3. Red arrow lines show time windows for which a generalized additive mixed model (GAMMs) finds differences between listed conditions are statistically significantly different

5. Discussion

Findings:

Despite more than 8 years of exposure to English in immersion classrooms, and an early start to an L2,

- Immersion learners' performance on both tasks showed differences from monolinguals in plural-singular marking comprehension.
- Having a larger vocabulary benefitted immersion learners' picture decision accuracy, but did not impact the VWP task.
- On the VWP task, L2 participants appeared to be more responsive to plural nouns.

Conclusions:

Similar to findings for abstract grammatical gender, differences can persist even for more semantically transparent features like plural-singular marking.

Our results indicate that when comprehension is examined at a finer level of scrutiny, findings for immersion learners' L2 comprehension are likely to parallel findings for L2 production.

