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How Are They Now?
Early Second Language Learners' Grammaticality Judgments in Adulthood

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When do L2 learning children converge on monolingual norms?

Breakdown of Relevant Sub-questions:

How do differences between what learners bring to the L2 impact convergence?

- Age of Arrival (AoA)

- L1

- Aptitude (e.g., non-verbal reasoning; phonological short-term memory)

How does subsequent L2 (and L1) experience impact development toward convergence?

- Learning Context (Classrooms vs. Communities vs. …)

- Richness of Language Exposure

Child Foreign Language Experience

Typically omitted from this type of research because:

- Convergence on monolingual norms is not expected.
- Findings for child foreign language (FL) acquisition do not directly generalize to children learning a community language.

However, given that FL contexts should be expected to provide different language learning experiences from second language (SL; ie, learning of a community language) contexts, child FL can be valuable in addressing how experience influences acquisition.

Previous Literature

Longitudinal Study Findings

Previous findings show that convergence for English morphology by those with uninflected L1s (specifically Chinese languages) may not occur even by 5 (Jia & Fuse, 2007) or 6 years (Paradis, Tulpar, & Arppe, 2016) of English exposure.

Paradis, Tulpar, & Arppe (2016)

Paradis *et al* found that by round 3 of the study 11 out of 18 participants had not obtained criterion scores for one or more of the items probed on a standardized test of English inflectional morphemes (TEGI).

- Participants had a mean age of 10;5 (SD = 0;11) with 6;4 years (SD = 0;7) of exposure to English
- All had an AoA < 6;0 (mean = 4;2, SD = 1;0)
- Typically developing monolinguals obtain criterion scores by 6;0

… So when can we expect these children to converge?

Developmental Retrospective Findings

These studies test the linguistic knowledge of adults who learned an L2 in early childhood.

Findings suggest that these learners may *NEVER* converge on monolingual language knowledge/use.

McDonald, 2000

- Compared Spanish L1 and Vietnamese L1 participants on a grammaticality judgement task. Both groups had learned English in the United States from early childhood.
- Found that the youngest Spanish group did not differ from monolinguals, but youngest Vietnamese learners did, particularly for inflectional morphology

Conclusion: L1 can impact whether child L2 learners converge on monolingual linguistic knowledge.

Abrahamsson & Hyltenstam, 2009

- Probed the linguistic knowledge and use of Spanish L1, highly advanced L2 learners of Swedish

- Found that AoA was strongly predictive of convergence.

- **However** – Even the youngest learners (as a group) did not reliably converge on the authors' definition of 'nativelikeness'.

- Conclude that it is rare for an L2 speaker *of almost any AoA* to converge on 'nativelike' linguistic knowledge and use.

- State that other findings of 'nativelike' L2 knowledge are likely due to ceiling effects on experimental tasks.

The Present Study

Research Questions

1. Are there detectable differences between child English L2 learners and monolingual English speakers in adulthood?

2. Do individual differences such as AoA, and age of beginning English education influence task performance?

3. Do participants who have learned English beginning in childhood, but in a foreign language context perform differently for particular inflectional morphemes than those who learned in a second language context?

4. Do participants whose L1 lacks inflection perform worse on particular morphemes than those whose L1 has inflections?

Grammaticality Judgement Task

Recorded audio stimuli probed the following morphemes:

1. Articles
2. 'Be' forms
3. 'Do' forms
4. Past Tense
5. Third Person Singular
6. Plural Marking

Fillers:
- Correct stimuli
- Adverbs with awkward/incorrect placement

Experimental items were counterbalanced with correct stimuli divided between two lists.

Participant Groups

| Language Type	MONO	SLA		FLA	
	English	Inflected	Non-Infl	Inflected	Non-Infl
Number	53	37	25	13	14
Age	20;5 (2;2)	19;12 (1;6)	19;11 (1;7)	23;2 (6;1)	20;8 (1;7)
Age Range	18;2 – 29;3	18;1 – 23;1	18;2 – 25;4	18;10 – 43;1	18;6 – 23;8
Age of Arrival (AoA)	NA	5;7 (4;3)	2;10 (3;0)	19;10 (4;4)	17;5 (1;5)
AoA Range	NA	1 - 14	1 - 12	14 - 32	15 - 19
Age of Eng. Education (AoEd)	4.17 (0.86)	6.53 (2.80)	4.83 (1.46)	7;10 (3;6)	8;4 (3;10)
AoEd Range	3 – 6	3 – 13	3 - 10	3 - 13	5 - 17

Results

Group Accuracy

1. ADV = Adverb
2. ART = Articles
3. BE = Be
4. DO = Do
5. FILL = Fillers
6. PAST = Past tense
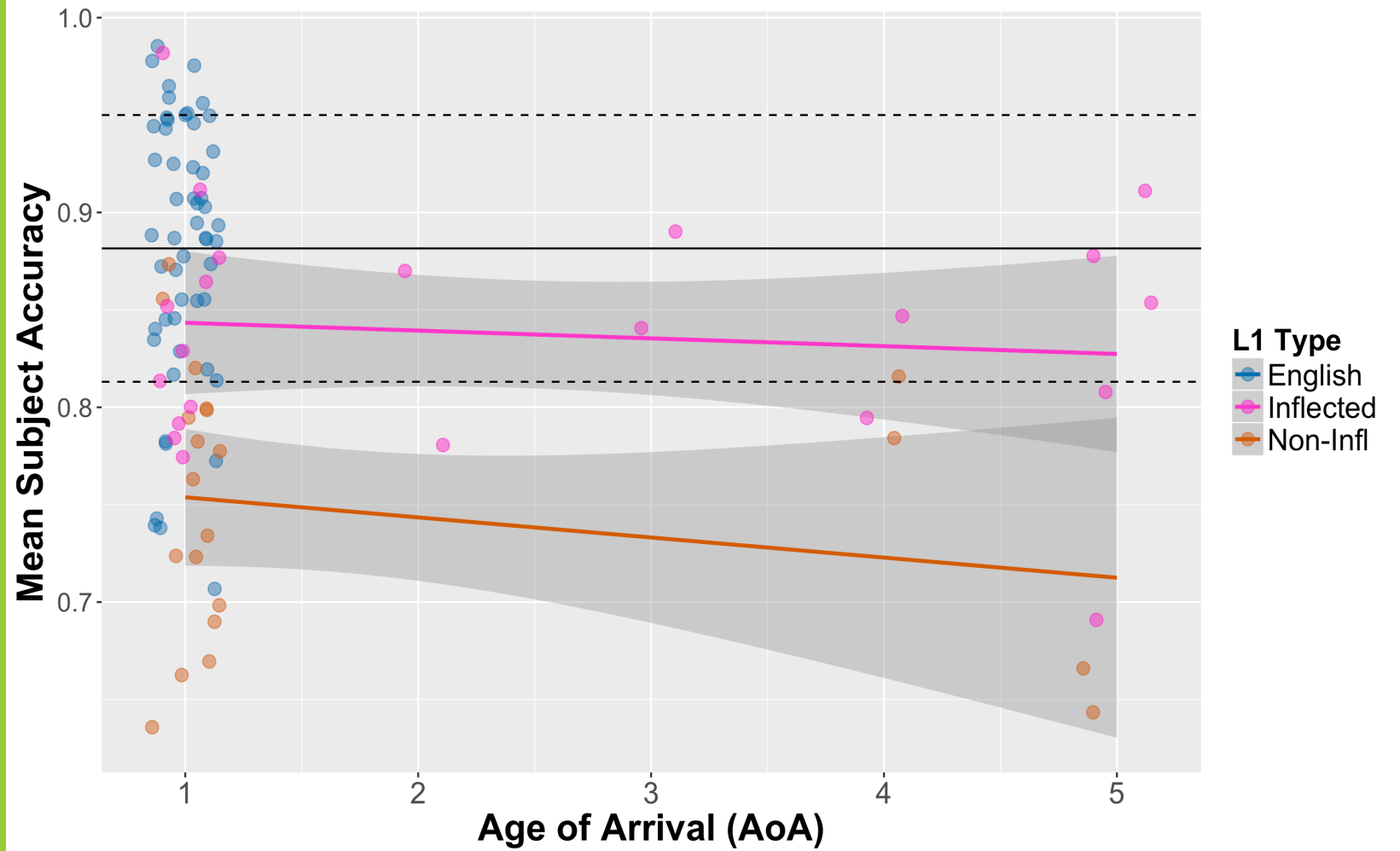7. PM = Plural Marking
8. TPS = Third Person Singular
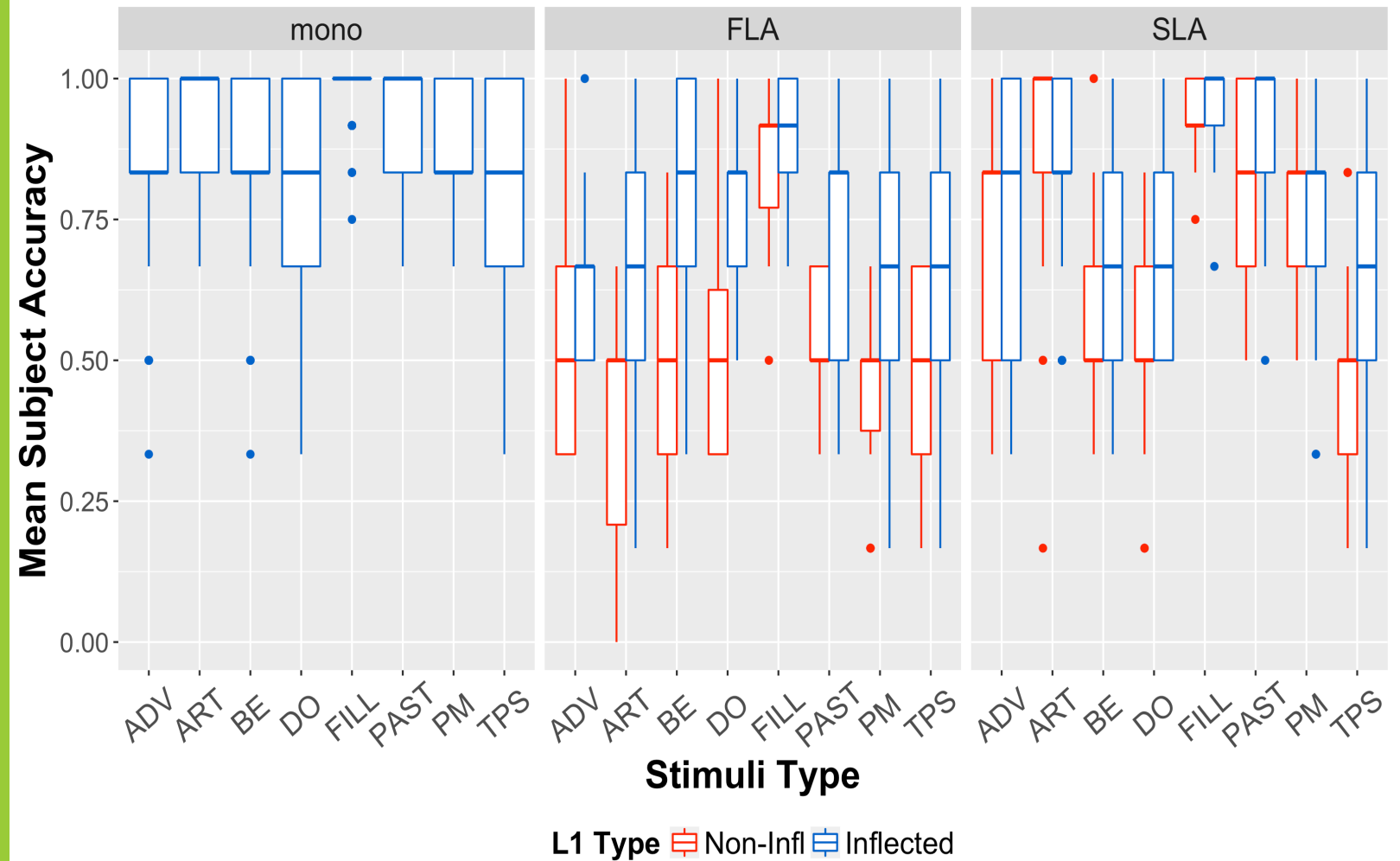
Subject Accuracy
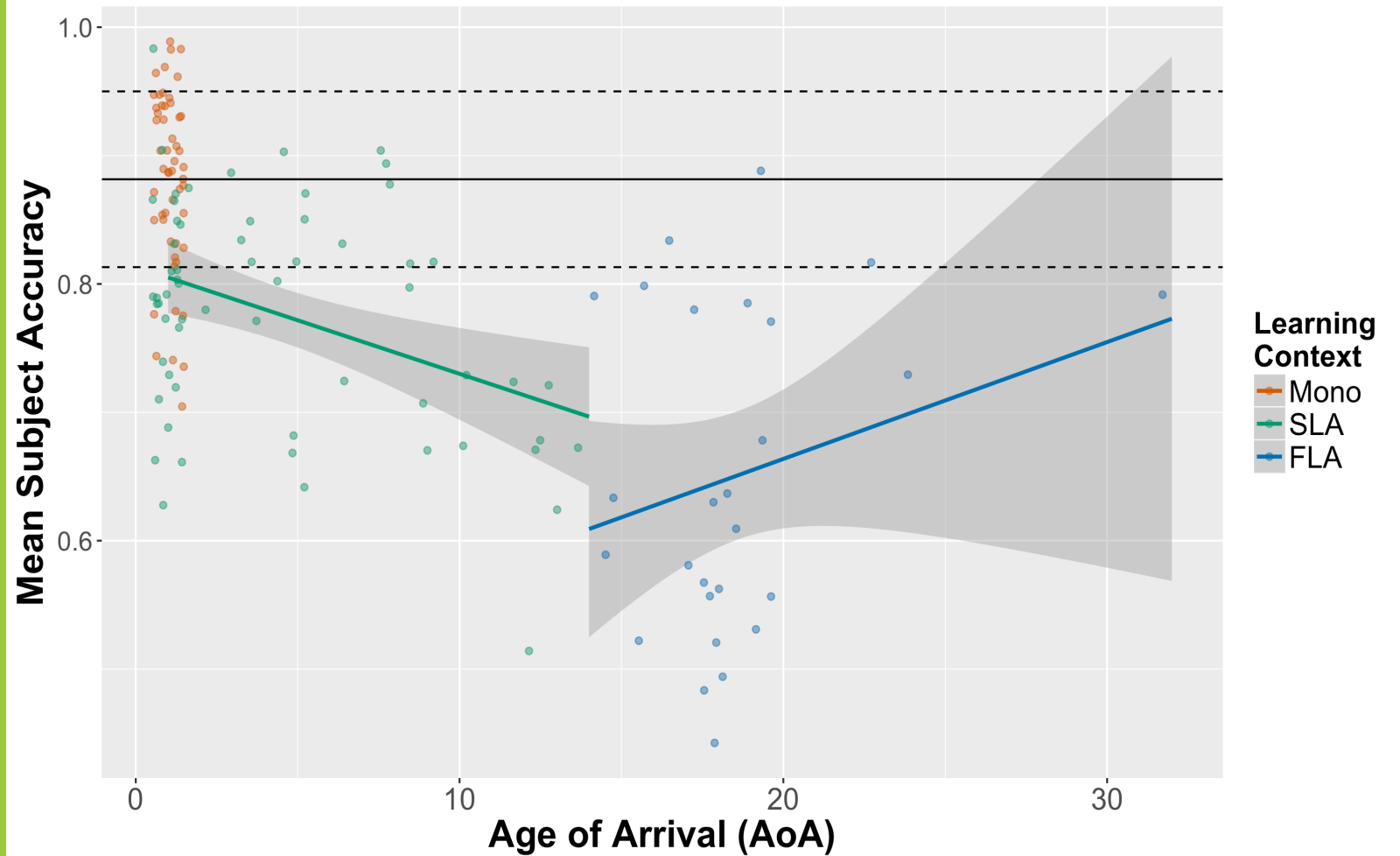
Points represent individual participant scores.

Points are coloured by group.

Early AoA by L1 Type

Mixed Effects Model

Most Informative Model

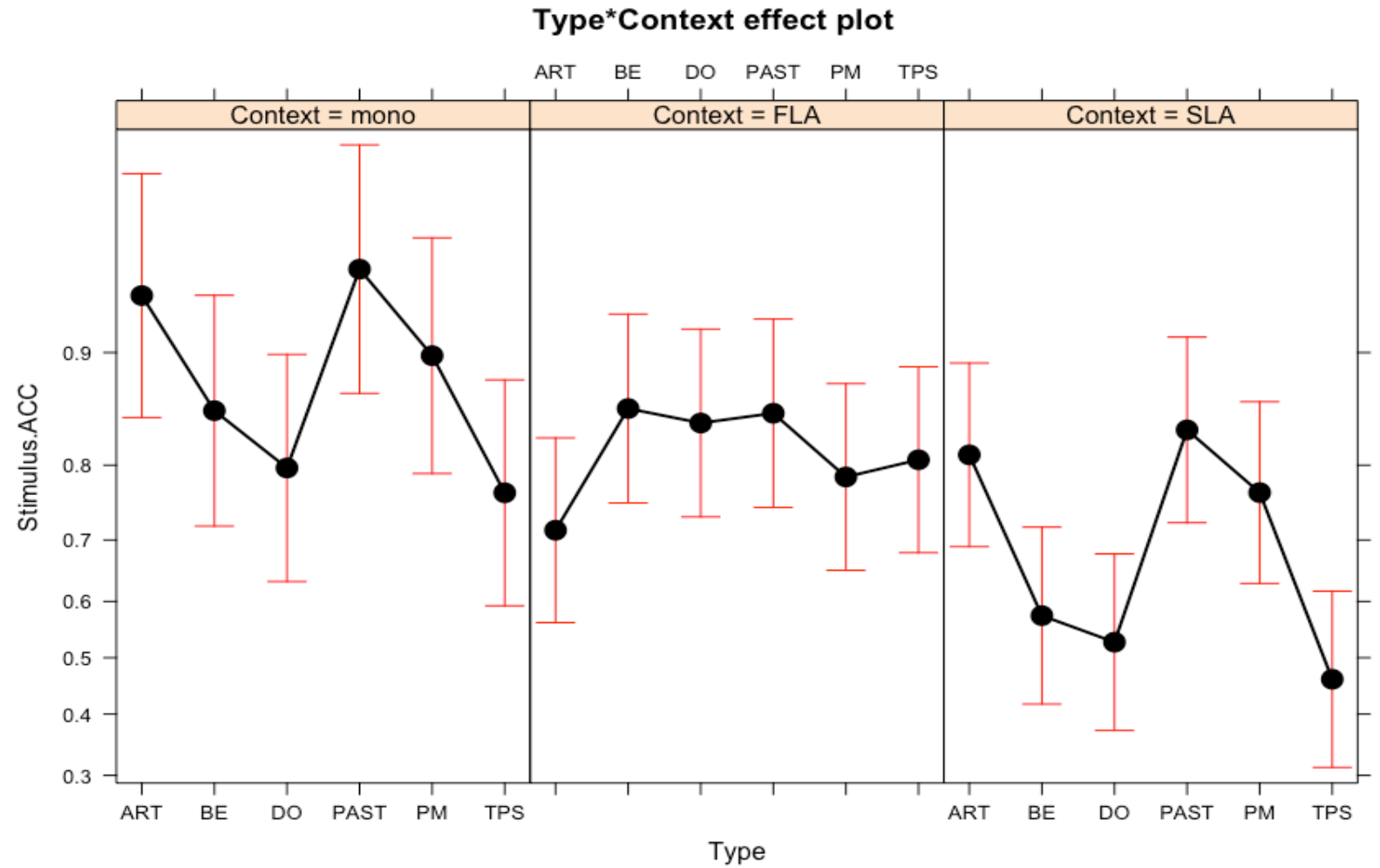Accuracy ~ Morpheme Type * Learning Context + L1 Type + Age of Arrival + PPVT Score + Random Effects(Subject + Item)

(Morpheme Type is in an interaction with Learning Context)

PPVT Score = Vocabulary Size

Random effects account for the expected random variation between subjects and individual stimuli items.
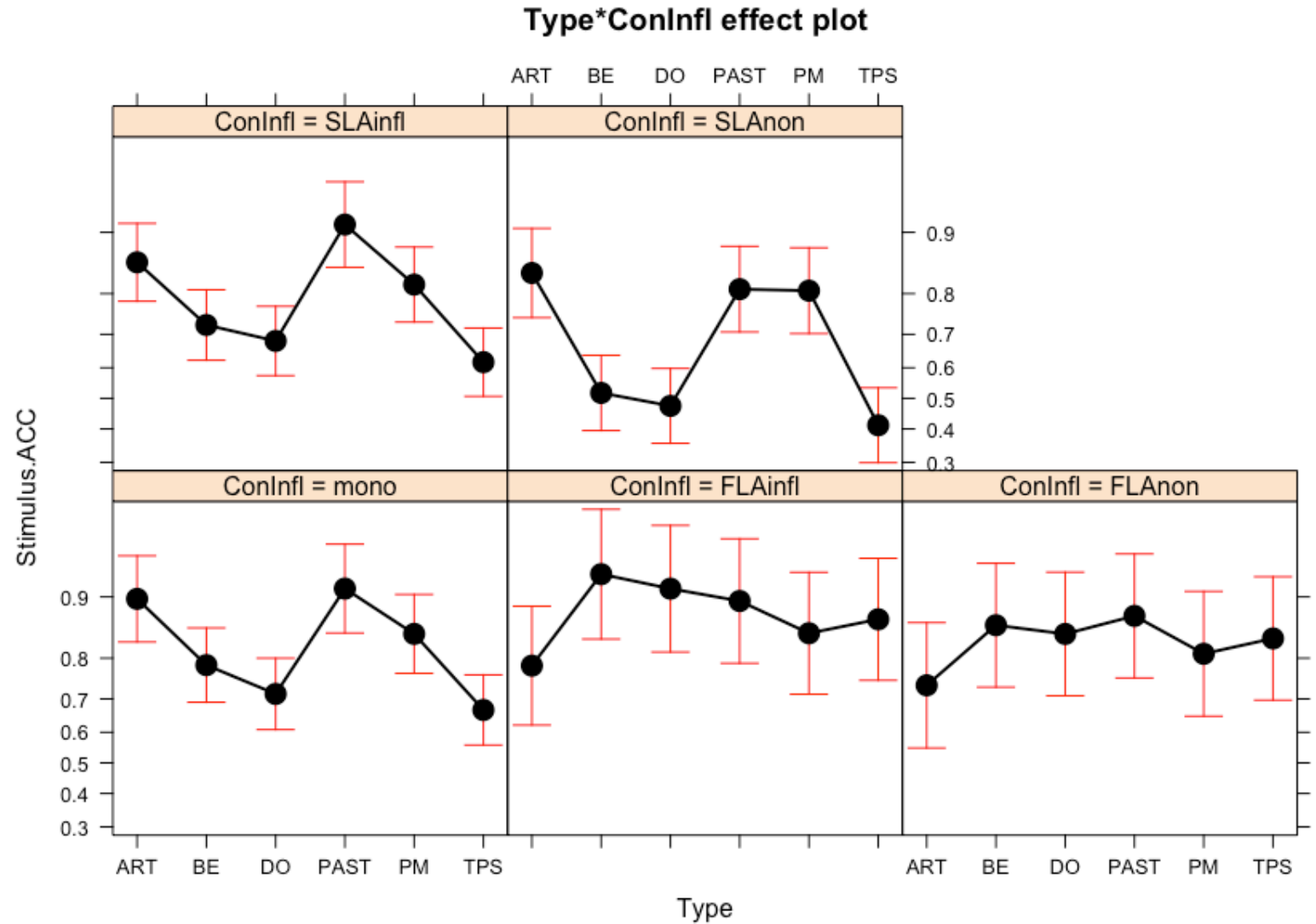
Model Results

Type*Context effect plot

Another Look

ConInfl: Monolingual and the SLA and FLA groups subdivided into inflected and non-inflected groups

- **mono = Monolinguals**

- **SLAinfl = SLA context; Inflected L1**

- **SLAnon = SLA; Non-Inflected L1**

- **FLAinfl = FLA; Inflected L1**

- **FLAnon = FLA; Non-Inflected L1**

Type*ConInfl effect plot

Discussion

Research Question 1

1. Are there detectable differences between child English L2 learners and monolingual English speakers?

   - **Yes**
   - Monolinguals outperformed bilingual groups (on average).

Research Question 2

2. Do individual differences such as AoA, and age of beginning English education influence task performance?

- **Yes**
- Both Age of Arrival and Vocabulary Knowledge (PPVT) influenced accuracy.

Research Question 3

3. Do participants who have learned English beginning in childhood, but in a foreign language context perform differently for particular inflectional morphemes than those who learned in a second language context?

- **Yes**
- Learning in a foreign language context appears to impact relative sensitivity to inflectional morphemes.

Research Question 4

4. Do participants whose L1 lacks inflection perform worse on particular morphemes than those whose L1 has inflections?

- **No**
- The FLA/SLA context variable was a much better predictor of morpheme sensitivity.
- **Hovever,** L1 influences overall accuracy.

Conclusions & Future Directions

The Impact of L1

Unlike Abrahamsson and Hyltenstam (2009) this study collected data from a range of L1s grouped as whether they allowed inflectional morphemes.

Like Abrahamsson and Hyltenstam, this study found an early influence of bilingualism; however, L1 type appears to have a stronger influence than increasing age (at least for AoA < 6), suggesting that the AoA effect may result from the existence of a prior learned language.

The Impact of Learning Context

Though this study supports Abrahamsson and Hyltenstam's conclusion that there are quantitative differences in linguistic knowledge, this study finds that there is also a strong similarity.

It seems that language learners who share a community appear similarly sensitive to particular inflectional morphemes, even if the overall degree of sensitivity differs.

Limitations & Future Directions (1)

This study was biased in favour of participants who have a relatively high level of academic achievement. All were university students. Have they succeeded despite more limited language ability or, is there a threshold beyond which more monolingual-like behaviour is of diminished benefit?

To address this question, the linguistic knowledge of SLA students in their last year of high-school should be tested and measured against their future academic outlook and past academic performance to determine if there is a success threshold for language.

Limitations & Future Directions (2)

Though information about English education was collected for the FLA group, an earlier age of beginning English education did not appear to have any benefit (data not presented). If the age of beginning English education is not relevant, then, it is possible that the *Context* effect is primarily an *AoA* effect.

To address this issue, the linguistic knowledge of FLA students with early exposure in an intensive FL program such as language immersion should be tested and measured. This way the impact of the educational experiences of the FLA group can be gauged.

Thank You

References

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