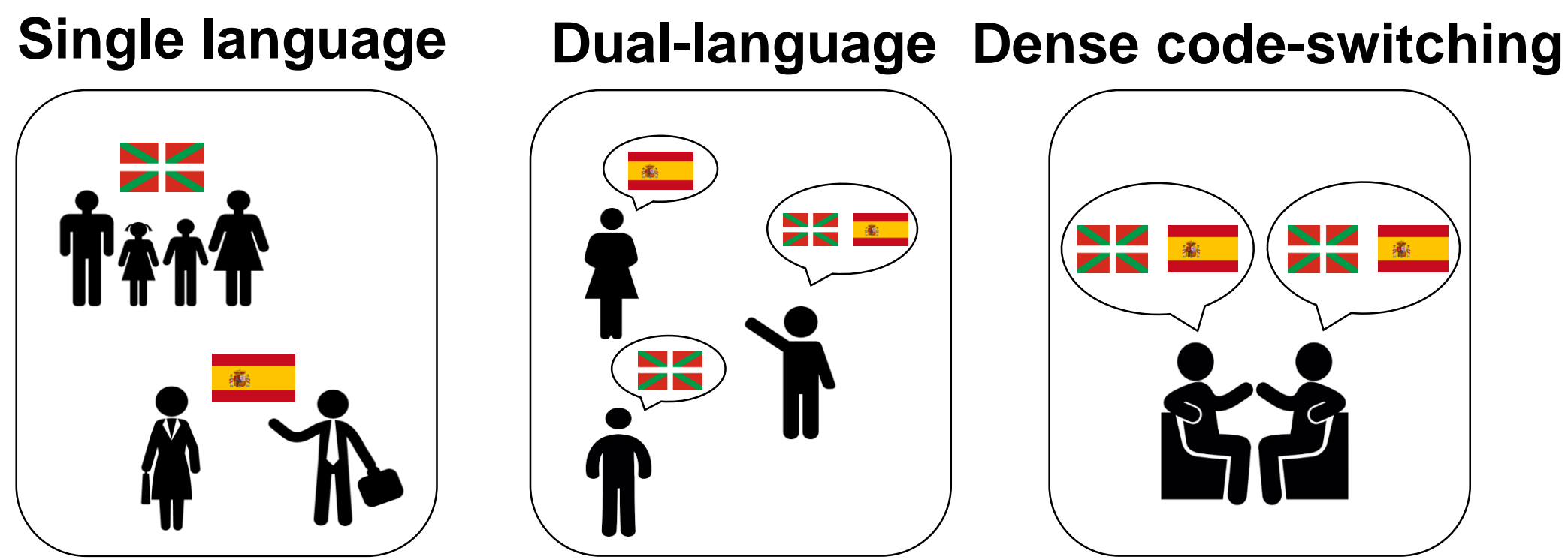


Adaptive Control Hypothesis

(Green & Abutalebi, 2013)

Three interactional contexts

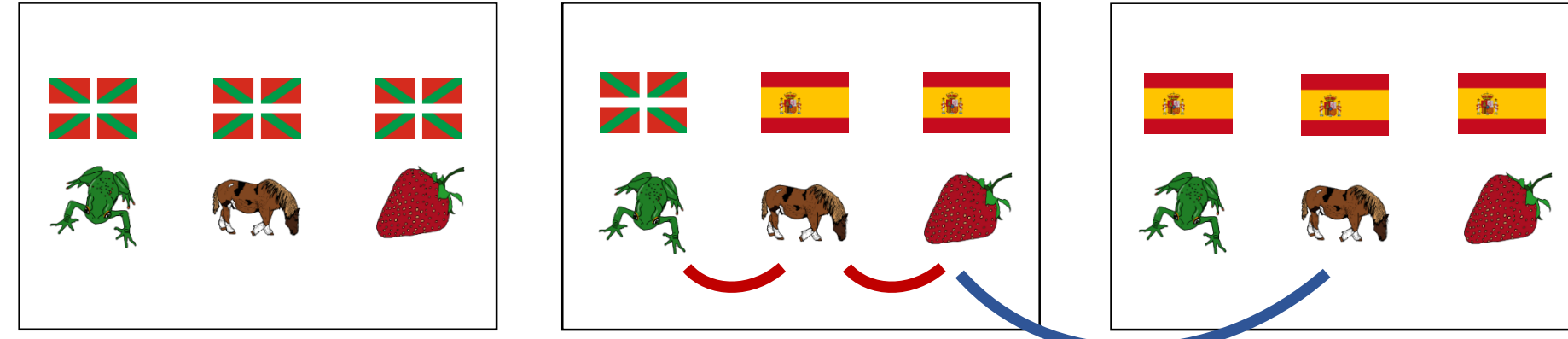
Language Control & Language Switching



Different language control mechanisms are needed in order to maintain a successful conversation

Cued Language Switching

Blocked condition Mixed condition Blocked condition



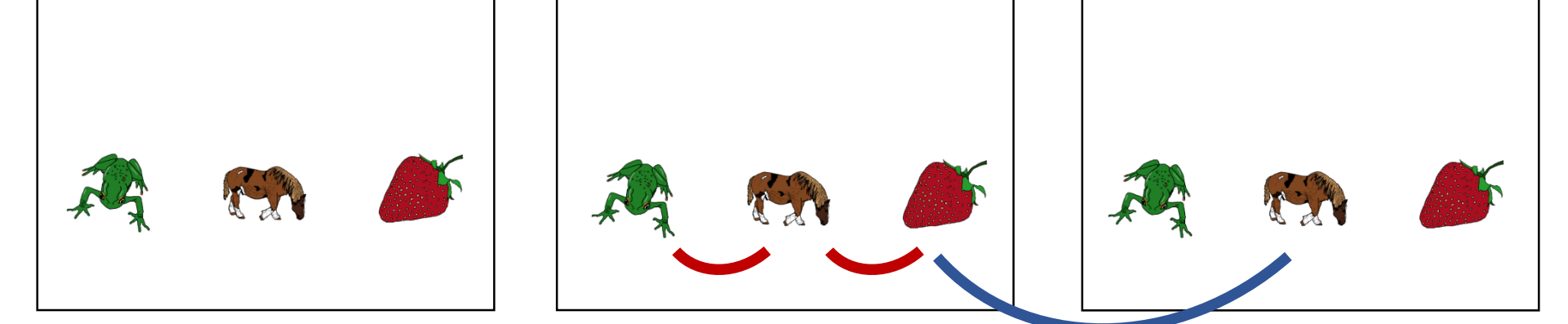
Participants follow the cues and are instructed when to switch

Switching Cost (local control) = switch – nonswitch trials
Effort associated with switching (Meuter & Allport, 1999)

Mixing Cost (global control) = blocked – nonswitch trials
Effort associated with using 2 languages (Christoffels et al., 2007)

Voluntary Language Switching

Blocked condition Mixed condition Blocked condition



Participants are free to switch whenever they want and there is no cue processing

Switching Cost – voluntary switching may be costly
(Gollan & Ferreira, 2009; de Bruin et al., 2018)

Mixing Benefit – voluntarily using two languages may be easier than using only one (de Bruin et al., 2018)

Current Study

Replicate the mixing benefit found in the voluntary language switching tasks (de Bruin et al., 2018)

Directly compare mandatory and voluntary language control and test the AC Hypothesis (Green & Abutalebi, 2013)

Voluntary Language Switching Task

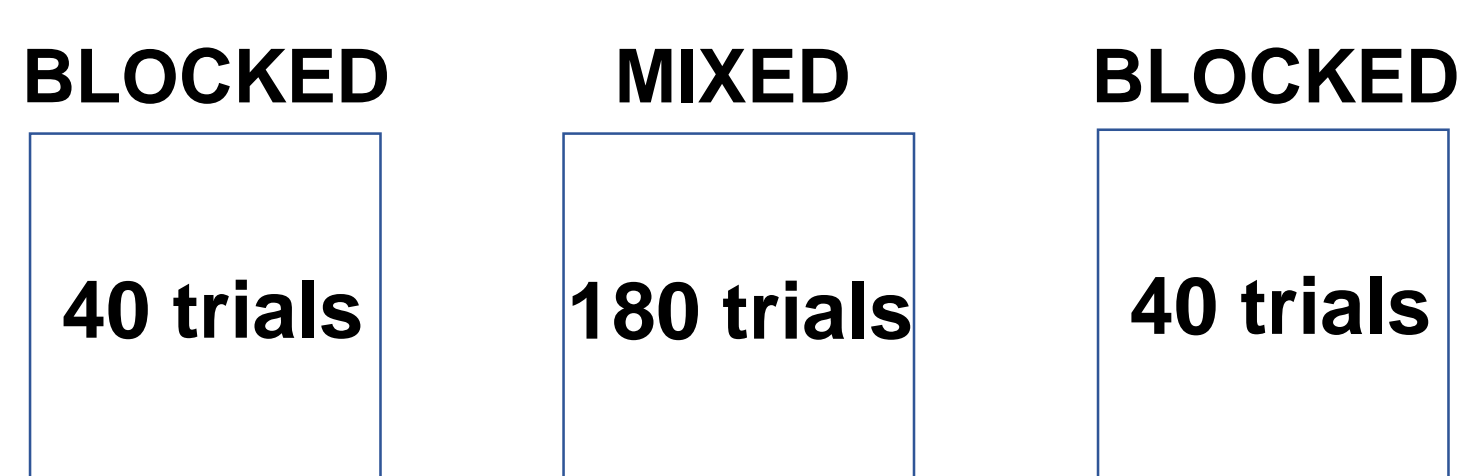
Method

Participants

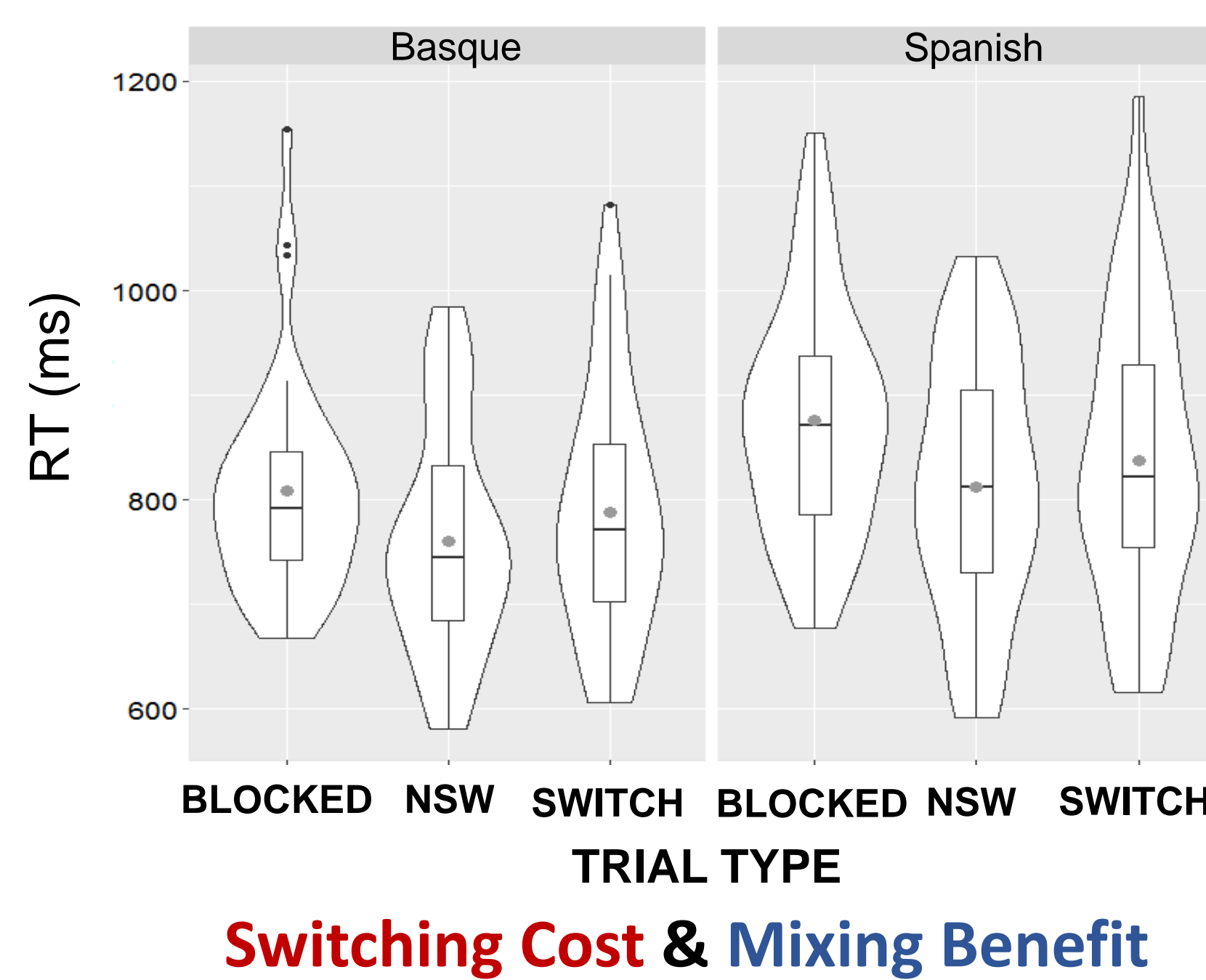
N = 40 Spanish-Basque bilinguals

Procedure

Picture naming task – **NO LANGUAGE CUES**



Results



Switching Cost & Mixing Benefit

Discussion

Replication of de Bruin et al.

Voluntary switching

↓
Frequent
Costly

Voluntarily using two languages is easier than staying in one

(de Bruin, Samuel & Duñabeitia, 2018)

Combined voluntary/mandatory picture naming task

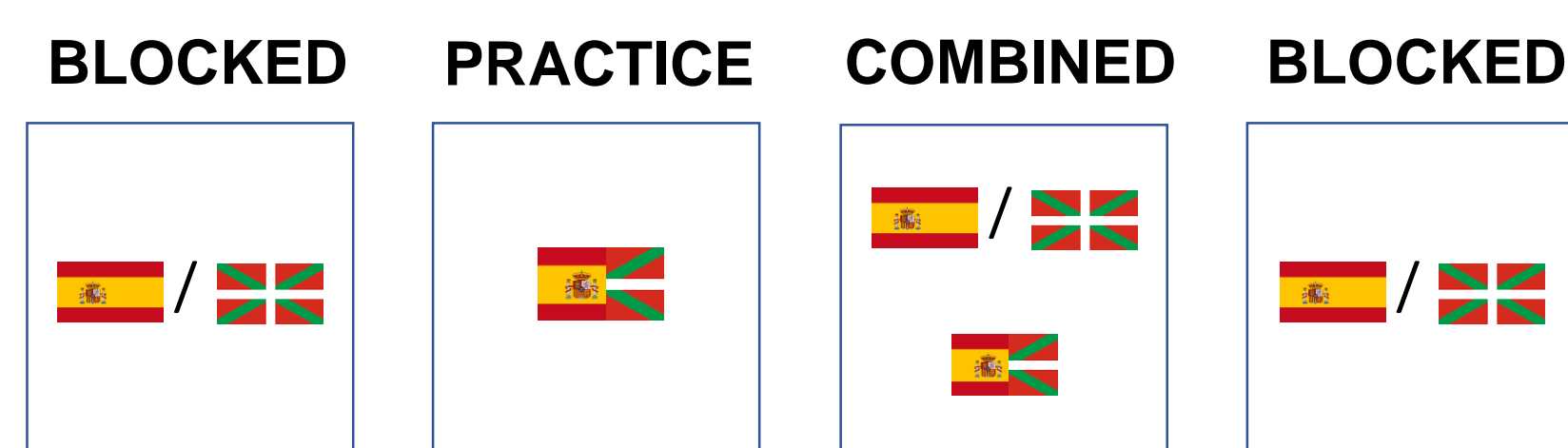
Method

Participants

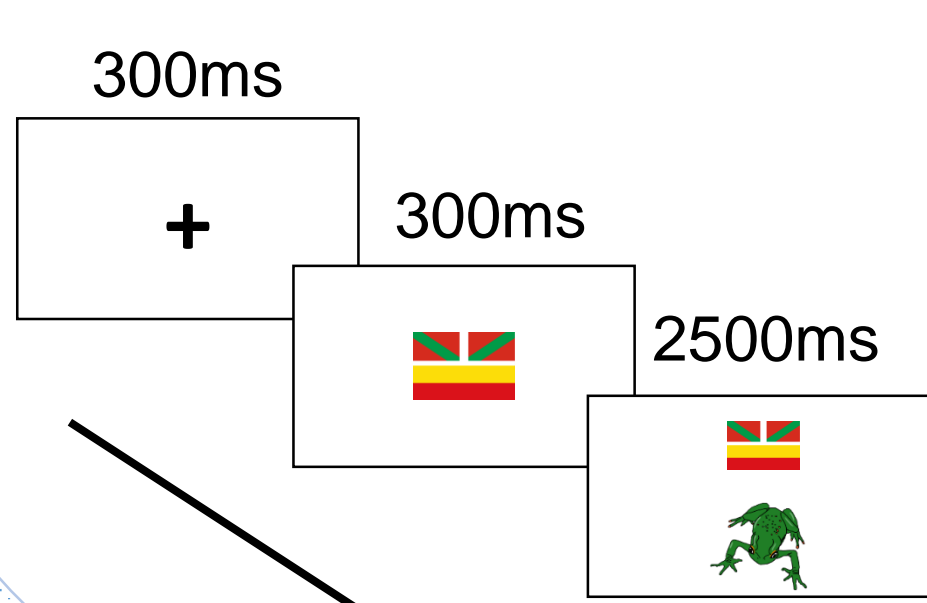
N = 40 Spanish-Basque bilinguals

Procedure

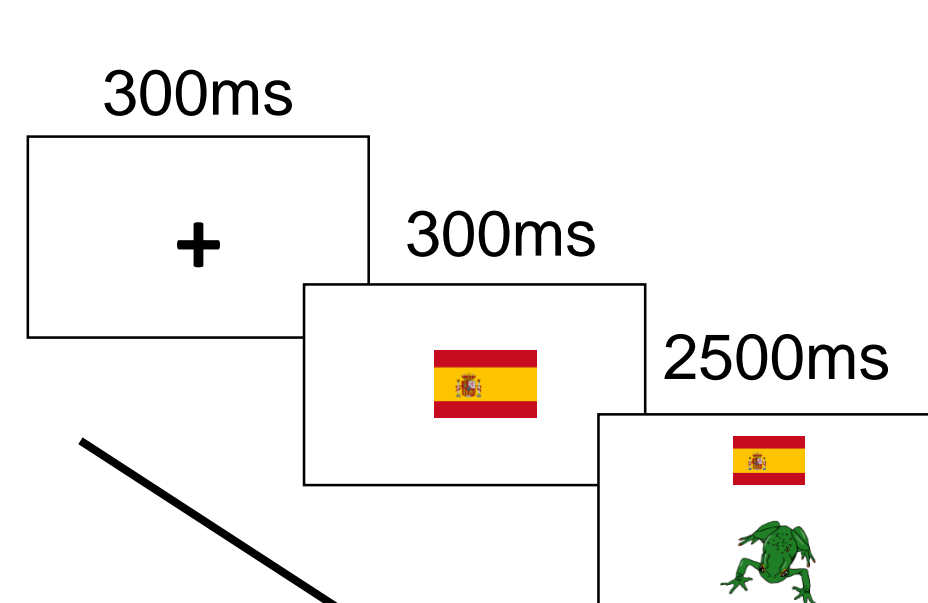
Picture naming task – **WITH LANGUAGE CUES**



Voluntary Trial



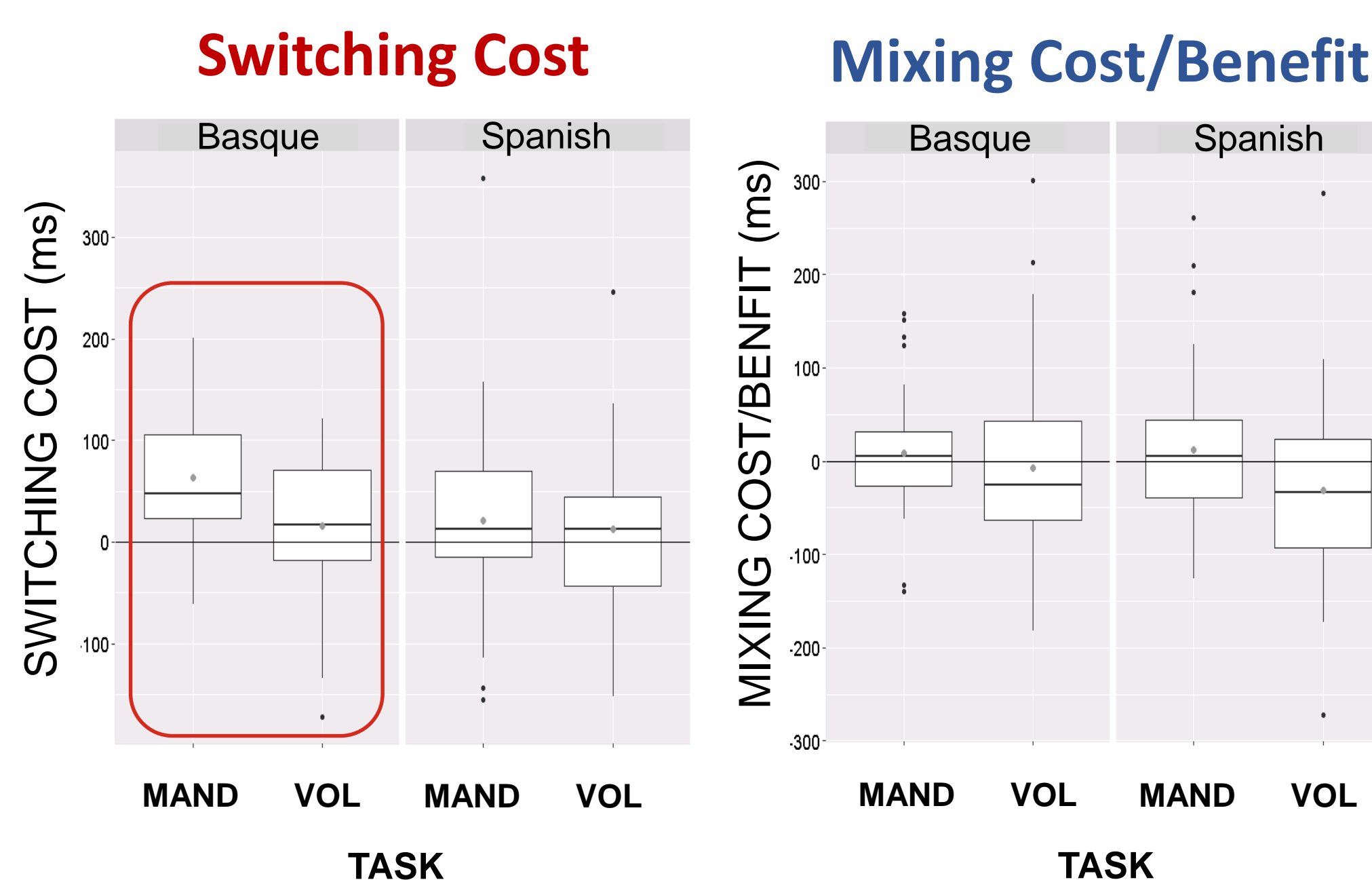
Mandatory Trial



Results

Mandatory trials were significantly slower
($\beta = 0.041$, SE = 0.012, $t = 3.36$)

Larger mixing effect in the mandatory task
($\beta = 0.031$, SE = 0.013, $t = 2.27$)



Discussion

Mandatory task overall more demanding

Overall Slower

Larger Mixing Effect

Mandatory nonswitch trials were slower than voluntary nonswitch trials

Larger Mandatory Switching Cost in Basque

Basque acted as the more active language, given that it was the faster and more preferred language in the experiment. Switching from weaker to stronger language takes more time.



Language Switching Asymmetry
(Meuter & Allport, 1999)

Conclusion

In line with the AC hypothesis, our results suggest that contexts allowing bilinguals to have both languages ready and to freely use them may be less demanding than interactional contexts requiring stricter language use.

References

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- Green, D. W., & Abutalebi, J. (2013). Language control in bilinguals: The adaptive control hypothesis. *Journal of Cognitive Psychology*, 25(5), 515–530.
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- Christoffels, I. K., Firk, C., & Schiller, N. O. (2007). Bilingual language control: An event-related brain potential study. *Brain Research*, 1147, 192–208.