Word Learning in Different Linguistic Contexts by 18-month-old Basque-Spanish Bilinguals

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Basque Center on Cognition, Brain and Language

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Language acquisition

doggy

park

home

ball

daddy

mommy

Language acquisition

mamá

doggy

pelota

home

parque

daddy

casa

park

perrito

ball

papá

mommy

Language acquisition

- Discrimination between native languages when these are rhythmically similar (Bosch and Sebastián-Gallés, 2001)

- From universal listeners to language-specific listeners (Bosch and Sebastián-Gallés, 2003)

- Early lexical representations (Ramón-Casas & Bosch, 2010; Hudon, 2013)

bcbl

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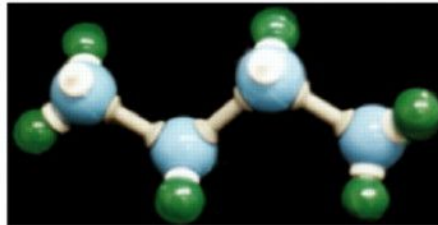
  → WORD LEARNING

Switch task procedure

(a) 'lif' 'neem'

(b) Same trial 'lif' — Switch trial 'neem'

From Werker's et al. (1998)

Look at the bin!

Where is the bin?

(Fennel & Waxman, 2010)

14-months-old ✔

17 and 20-months-old ✔

Switch task procedure

(a)

'lif'   'neem'
'bin'   'din'

Look at the bin!

Where is the bin?
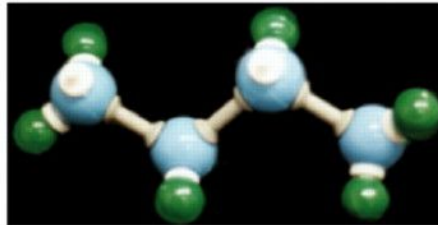
(Fennel & Waxman, 2010)

(b)

Same trial   *Switch trial*

'lif'   'neem'
'bin'   'din'

"bin" and "din" From Werker's et al. (1998)

14-months-old ✔

17 and 20-months-old ✔

Present study

Language discrimination

Phonetic detail knowledge

Word recognition

Word learning

Can phonetic detail guide word learning?

/oʂe/ /oθe/ /otʂe/

Method

/os̬e/ /oθe/ /ots̬e/

Spanish

/os̬e/ ⟶ /oθe/ PHONEMIC

/os̬e/ ⟶ /ots̬e/ NON-PHONEMIC

Method

/os̺e/ /oθe/ /ot̺s̺e/

Spanish

/os̺e/ ⟶ /oθe/ PHONEMIC

/os̺e/ ⟶ /ot̺s̺e/ NON-PHONEMIC

Basque

/os̺e/ ⟶ /oθe/ NON-PHONEMIC

/os̺e/ ⟶ /ot̺s̺e/ PHONEMIC

Method

- **Fourteen 18-month-old Basque-Spanish bilinguals (mean age 547 days)**

  - 11 infants excluded

- **Vocabulary size** (Werker & Tees, 2005; Werker et al., 2007; Curtin et al., 2005)

  - MacArthur-Bates CDI

- **Language Exposure Questionnaire**

  - Criterion: 85%- 15%

  - Mean exposure: 70,79%

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Method

Spanish condition

Pretest/Post-test	Habituation
/pok/	¡Mira al /os̪e/ bonito!

Basque condition

Pretest/Post-test	Habituation
/pok/	Begira! /os̪e/ bat.

Spanish condition

Pretest/Post-test	Habituation	Same	Switch 1	Switch 2
/pok/	¡Mira al /oʒe/ bonito!	¡Mira al /oʒe/ bonito!	¡Mira al /oθe/ bonito!	¡Mira al /otʃe/ bonito!

Basque condition

Pretest/Post-test	Habituation	Same	Switch 1	Switch 2
/pok/	Begira! /oʒe/ bat.	Begira! /oʒe/ bat.	Begira! /oθe/ bat.	Begira! /otʃe/ bat.

Predictions

If phonetic detail guides word learning…

SPANISH	BASQUE
/os̺e/ ⟶ /oθe/ ✅	/os̺e/ ⟶ /oθe/
/os̺e/ ⟶ /ots̺e/	/os̺e/ ⟶ /ots̺e/

- Vocabulary and language exposure

Predictions

If phonetic detail guides word learning…

SPANISH	BASQUE
/oȿe/ ——▶ /oθe/ ✅	/oȿe/ ——▶ /oθe/ ❌
/oȿe/ ——▶ /otȿe/	/oȿe/ ——▶ /otȿe/

- Vocabulary and language exposure

Predictions

If phonetic detail guides word learning…

SPANISH	BASQUE
/os̺e/ ⟶ /oθe/ ✔	/os̺e/ ⟶ /oθe/ ✖
/os̺e/ ⟶ /ots̺e/ ✖	/os̺e/ ⟶ /ots̺e/

- Vocabulary and language exposure

Predictions

If phonetic detail guides word learning…

SPANISH	BASQUE
/os̠e/ ⟶ /oθe/ ✔	/os̠e/ ⟶ /oθe/ ✘
/os̠e/ ⟶ /ots̠e/ ✘	/os̠e/ ⟶ /ots̠e/ ✔

- Vocabulary and language exposure

1. Use of phonetic detail

2. Vocabulary size

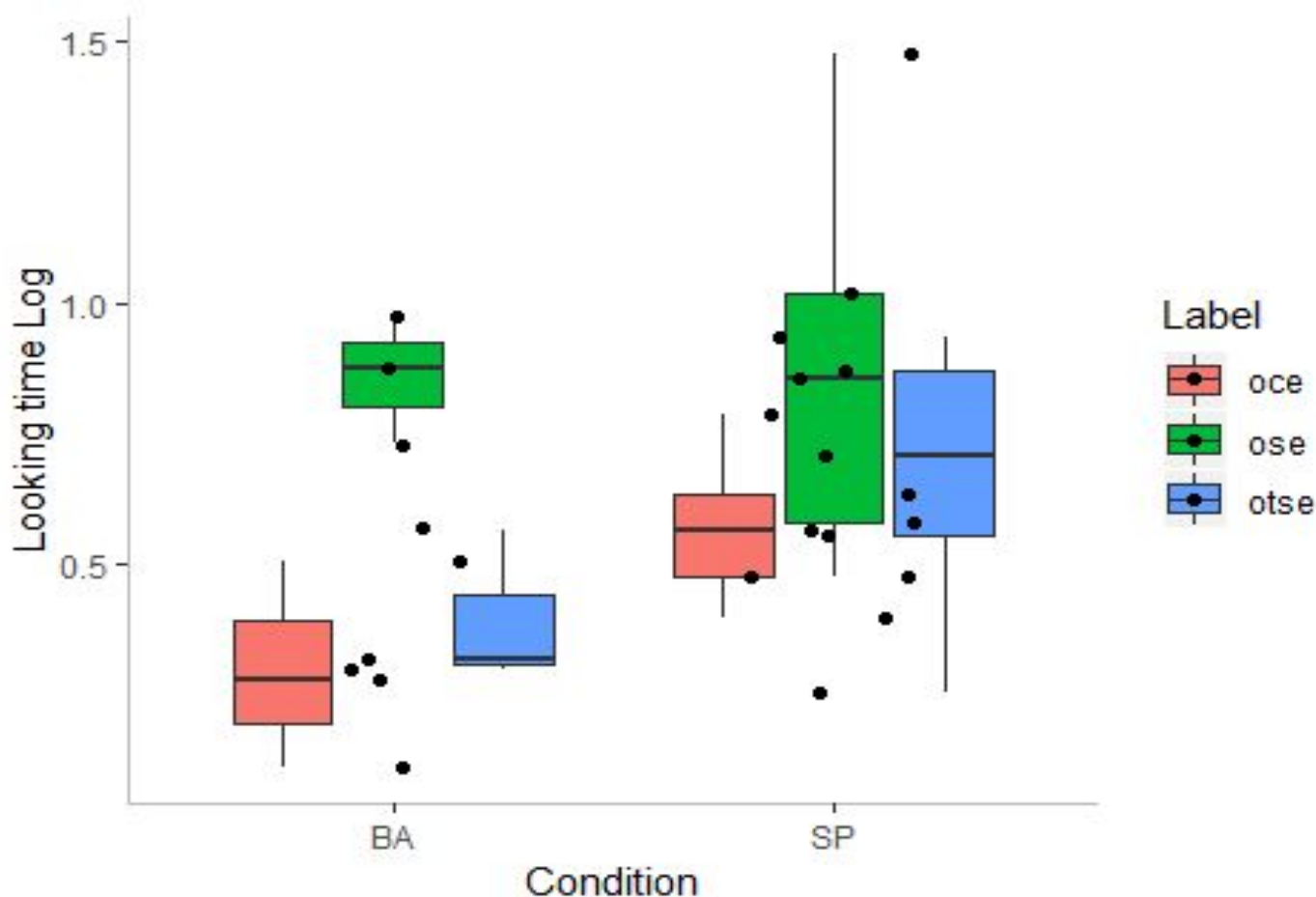SPANISH CONDITION

2. Vocabulary size

BASQUE CONDITION
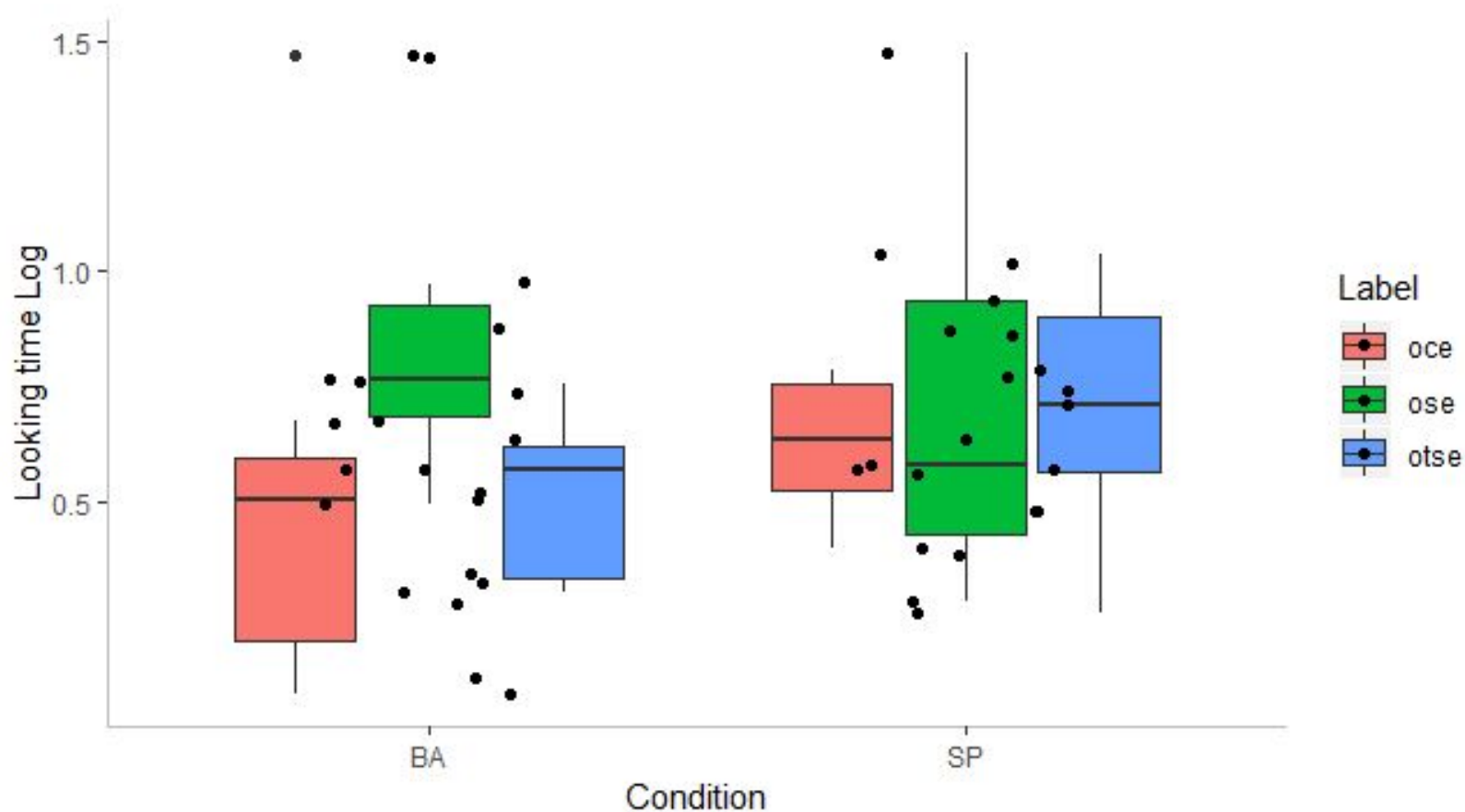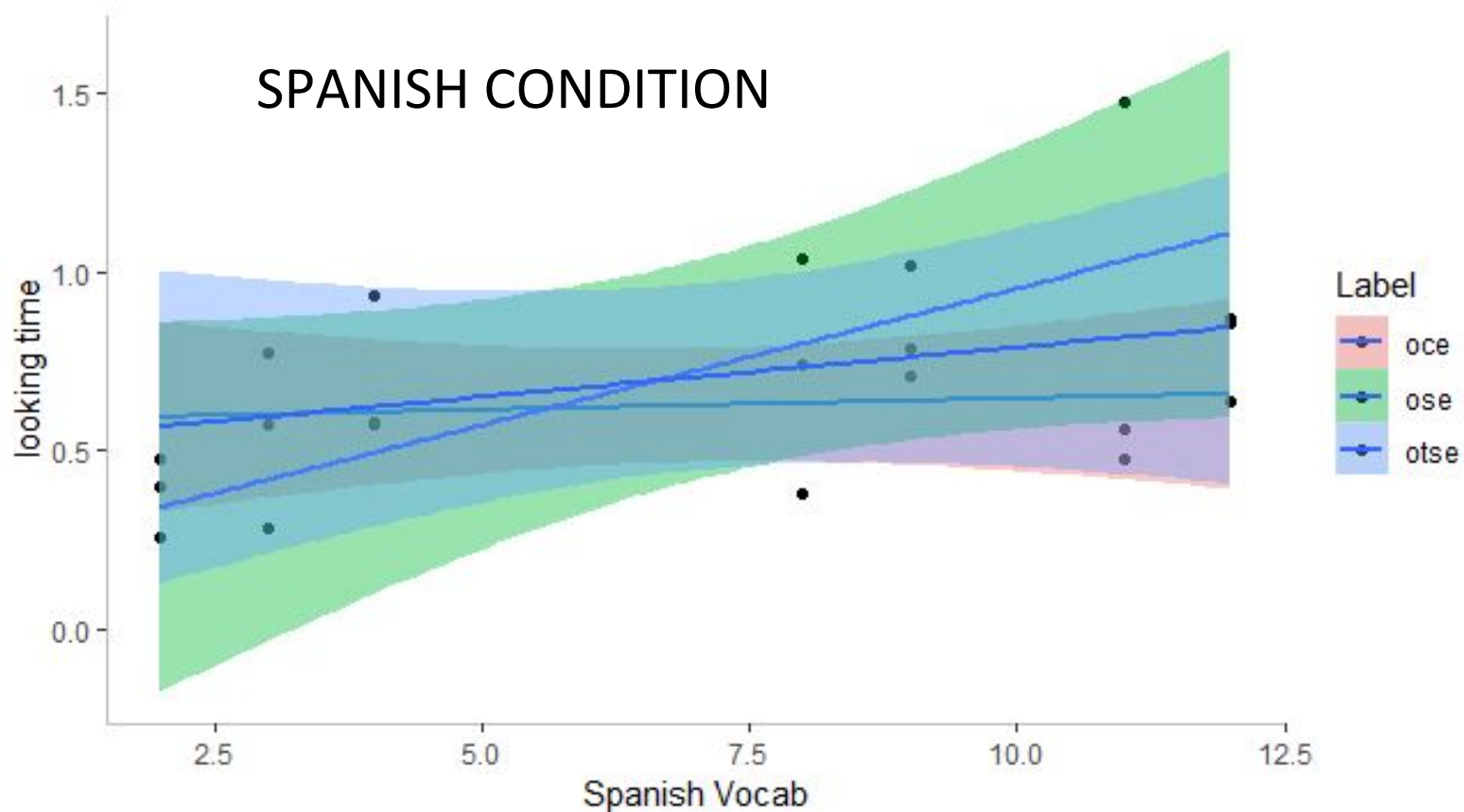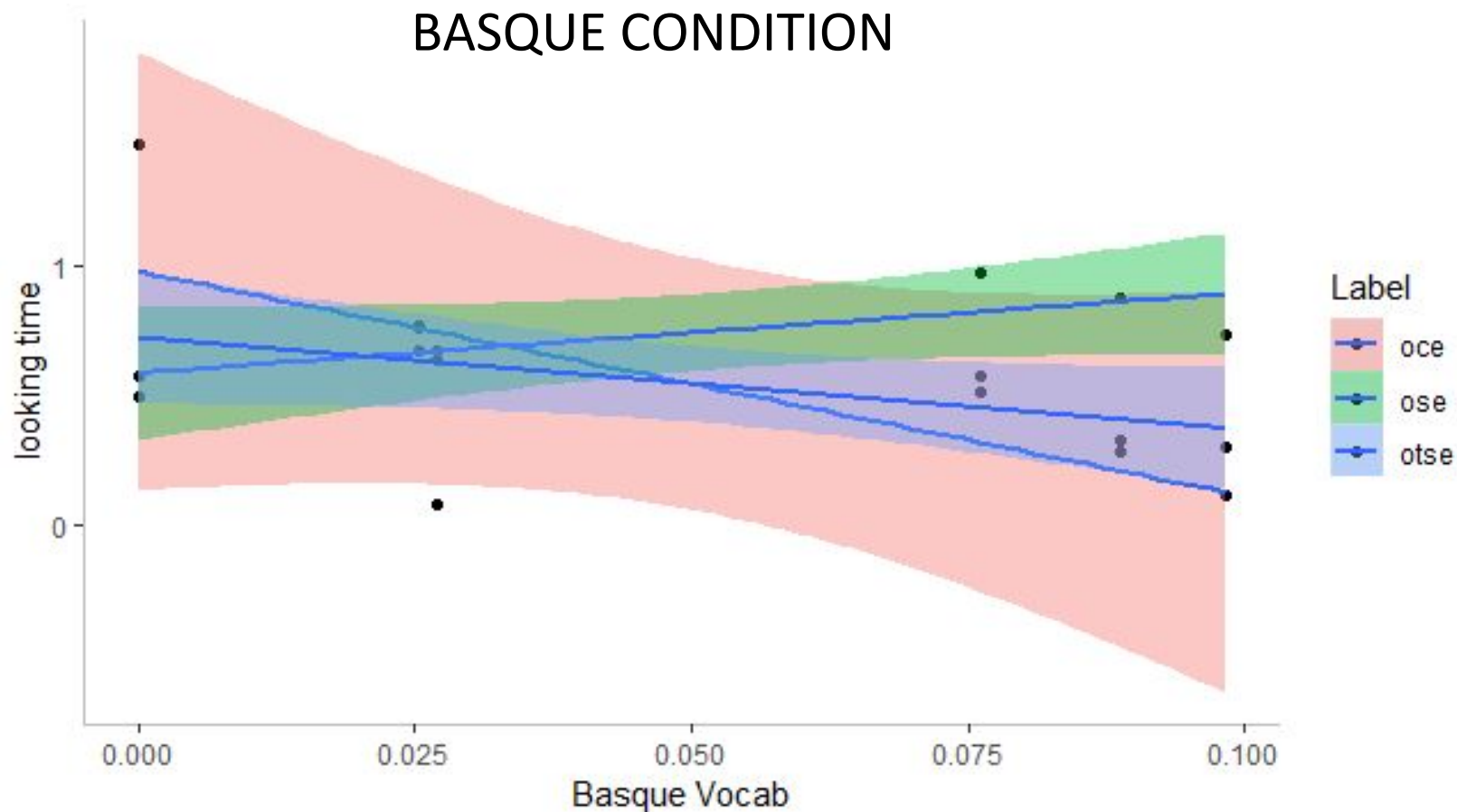
3. Language exposure and language dominance

- F $(2, 12) = 74.196$, p = 0.007*

Discussion

- Novelty vs. familiarity preference (Houston-Price & Nakai, 2004)

  - Older infants (Fennell & Werker, 2007)

- Language mixing (Byers-Heinlein, 2013)

- Sample size (<24)

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- Basque-Spanish bilingual infants have not used phonetic detail to guide their learning.

- Vocabulary size in each of their languages correlates to infants' looking time in each condition.

- Infants rely on their dominant language to learn words.

- Linguistic context and language dominance (Mattock et al., 2010)

Thank You!

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