**CompMix**

*August 2016*

**Proposal Title:** The Effects of language Mixing on Downstream Word Comprehension in Bilingual Infants

**Participants:**

20 bilingual (French/English) 36-48 month olds.

Comprehension scores 7/10 or higher based on LEAPQ

**Questionnaires:**

* Consent Form
* Demographics questionnaire
* Language Experience and Proficiency Questionnaire (LEAP-Q)
* Parents’ self-reported proficiency, age of acquisition of each language and percentage of time they use each language with their child
* Developmental Vocabulary Assessment for Parents (DVAP) in each language
* Language Mixing Questionnaire

**What:**

This study examines if familiar words are harder for bilingual 36-48 month olds to recognize when they appear downstream of language mixing compared to single-language sentences.

**Language Mixing:**

Using multiple languages in one sentence. In the context of this study, a language-mixed sentence refers to a frame, a one-word language mix and a return to the base language for the target word (e.g., “Look at the *grand* dog!”). All language-mixed word will be prenominal adjectives.

**How :**

* Baby on parent’s lap, in front of eye tracker
* A language mixed or single language sentence phrase is read, describing the familiar object with one prenominal adjective and telling the child to look at the familiar object.
* Two images are on the monitor, one of the target and one of the distractor. Dog/Bunny, Duck/Fish and Froggy/Cow are always paired together.
* 24 trials: 8 Language-Mixed, 8 Single-language, 8 fillers. Each pair of object appears with 1 adjective and its translation.

**Why :**

To measure the reaction time and accuracy (the amount of time the child spends looking at the target image after its name has been said compared to the distractor)

**Stimuli**

1. **The familiar words:**

* Dog/Chien – Bunny/Lapin
* Cow/Vache – Froggy/Grenouille
* Duck/Canard – Fish/Poisson
* Sheep/Mouton – Monkey/Singe

**\*Characteristics of familiar words:**

* Two feminine always together/two masculine always together (Dog/Bunny; Froggy/Cow, Duck/Fish, Sheep/Monkey)
* No sound overlap in onset or code

1. **The prenominal adjectives/language-mixed noun**

* Gentil(le)/ Nice
* Joli(e)/ Pretty
* Bon/ Good
* Petit/ Little

**\*Characteristics of adjectives:**

* Not cognates
* Shouldn’t describe one familiar more than the other (‘Look at *la* *grande* froggy’ with cow as a distractor.)
* Adjectives start with different sounds in French and English
* Can be used prenominally in French

1. **Fillers**

* A new/Une nouvelle: Apple/Toothbrush - Pomme/Brosse à dent
* A big/ Une grande: Hand/Door - Main/Porte
* A large/ Une grosse: Ear/Spoon - Oreille/Cuillère
* An old/ Un ancien: Pencil/Crayon – Coat/Manteau

**\*Characteristics of Fillers:**

* Always the same pairs
* No language mixing

**Order F1: French- Bold and highlighted: Target image**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Stimulus** | **Adjective** | **Target word** | **Left image** | **Right image** | **Trial type** | **Target Side** |
| 1 | Regarde! Peux-tu trouver une grosse oreille? | A large | Ear | Spoon | **Ear** | Filler | Right |
| 2 | Regarde! Peux-tu trouver une nouvelle pomme? | A new | Apple | **Apple** | Toothbrush | Filler | Left |
| 3 | Regarde! Peux-tu trouver le bon poisson? | The good | Fish | Duck | **Fish** | Single | Right |
| 4 | Regarde! Peux-tu trouver the little mouton? | The little | Sheep | Monkey | **Sheep** | Switch | Right |
| 5 | Regarde! Peux-tu trouver le gentil chien? | The nice | Dog | **Dog** | Bunny | Single | Left |
| 6 | Regarde! Peux-tu trouver une grosse cuillère? | A large | Spoon | Ear | **Spoon** | Filler | Right |
| 7 | Regarde! Peux-tu trouver the nice lapin? | The nice | Bunny | **Bunny** | Dog | Switch | Left |
| 8 | Regarde! Peux-tu trouver une grosse main? | A big | Hand | Door | **Hand** | Filler | Right |
| 9 | Regarde! Peux-tu trouver le petit mouton? | The little | Sheep | **Sheep** | Monkey | Single | Left |
| 10 | Regarde! Peux-tu trouver the pretty vache? | The pretty | Cow | **Cow** | Froggy | Switch | Left |
| 11 | Regarde! Peux-tu trouver the nice chien? | The nice | Dog | Bunny | **Dog** | Switch | Right |
| 12 | Regarde! Peux-tu trouver une nouvelle brosse à dent? | A new | Toothbrush | **Toothbrush** | Apple | Filler | Left |
| 13 | Regarde! Peux-tu trouver the good poisson? | The good | Fish | **Fish** | Duck | Switch | Left |
| 14 | Regarde! Peux-tu trouver la jolie grenouille? | The pretty | Froggy | Cow | **Froggy** | Single | Right |
| 15 | Regarde! Peux-tu trouver une grande porte? | A big | Door | Hand | **Door** | Filler | Right |
| 16 | Regarde! Peux-tu trouver the pretty grenouille? | The pretty | Froggy | **Froggy** | Cow | Switch | Left |
| 17 | Regarde! Peux-tu trouver un ancien crayon? | An old | Pencil | **Pencil** | Coat | Filler | Left |
| 18 | Regarde! Peux-tu trouver le gentil lapin? | The nice | Bunny | Dog | **Bunny** | Single | Right |
| 19 | Regarde! Peux-tu trouver the good canard? | The good | Duck | Fish | **Duck** | Switch | Right |
| 20 | Regarde! Peux-tu trouver un ancien manteau? | An old | Coat | **Coat** | Pencil | Filler | Left |
| 21 | Regarde! Peux-tu trouver le petit singe? | The little | Monkey | Sheep | **Monkey** | Single | Right |
| 22 | Regarde! Peux-tu trouver le bon canard? | The good | Duck | **Duck** | Fish | Single | Left |
| 23 | Regarde! Peux-tu trouver the little singe? | The little | Monkey | **Monkey** | Sheep | Switch | Left |
| 24 | Regarde! Peux-tu trouver la jolie vache? | The pretty | Cow | Froggy | **Cow** | Single | Right |

**Characteristics of this stimulus order**

Carrier phrases always in the same language within a condition

Half targets on left, half targets on right

No more than two of the same trial type in a row

No target on the same side more than once

Each object labeled in a single trial and a switch trial once in each half

For the single, switch, and filler trials, half of the targets on the left and half on the right

Single/Switch trials have le/the determiner, and filler trials have a/un. This is so that the switched determiner isn’t less frequent than the same determiner

**Trials:** 4 orders-24 trials each, each familiar word appears twice

**Creating subsequent orders**

For order F2: Carrier phrase in French, Images switch sides

For order E1: Carrier phrase is in English, Images on the same side as F1

For order E2: Carrier phrase is in English, Images on the same side as F2