

# Childhood bilingualism and usage based theories

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# Usage-based theories

- Language is learned through usage
  - Time on task, frequency of usage
- Much of the UB research has focused on children's production
  - Although the same principles should apply to both production and comprehension

## Child bilinguals...

- Use less of each language (on average) than monolinguals
- Should therefore lag behind monolinguals (on average) in each of their languages
- Do they?

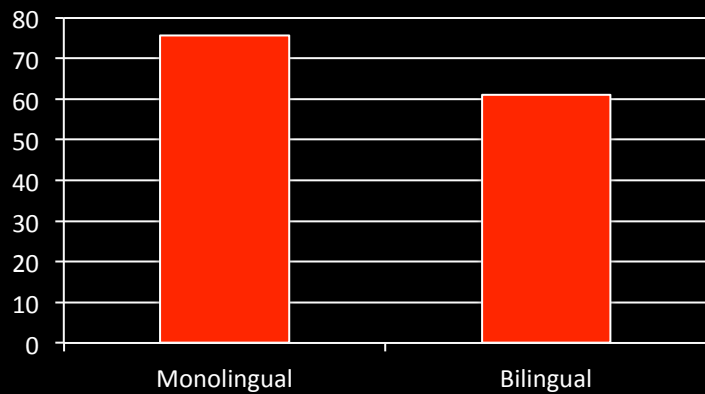
## Child bilinguals...

- Use less of each language (on average) than monolinguals
- Should therefore lag behind monolinguals (on average) in each of their languages
- Do they?
  - Yes
  - No
  - Other

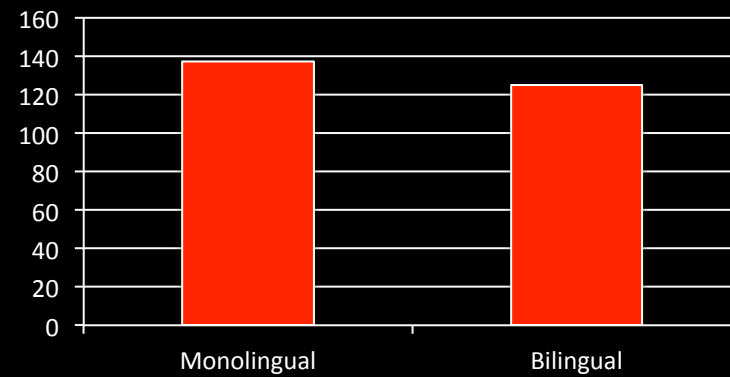
# Yes, bilinguals show lags...

- Vocabulary
  - Receptive
  - Expressive
- Irregular past tense morphology
- Sentence production
- Agreement of French feminine adjectives
- French liaison/elision
- Etc.

# Receptive vocabulary

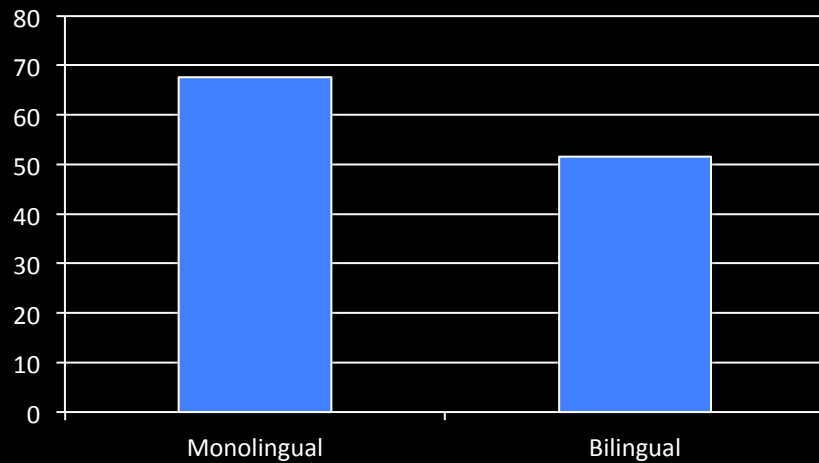
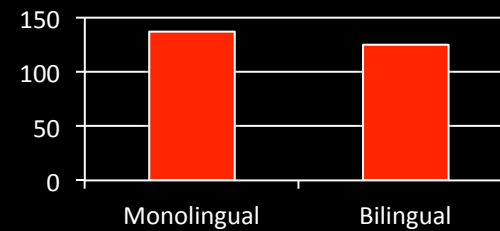
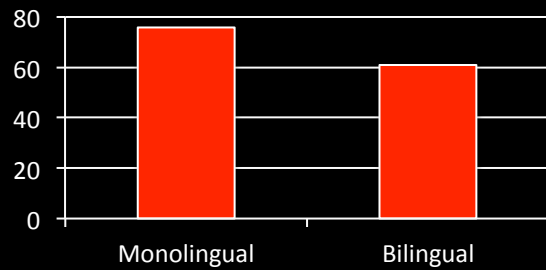


Nicoladis, Rose, & Foursha-Stevenson, 2010

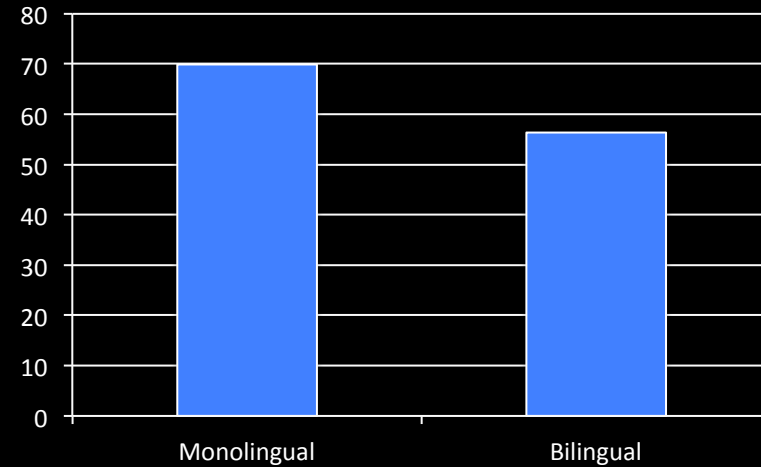


Keith & Nicoladis, 2013

# Receptive vocabulary

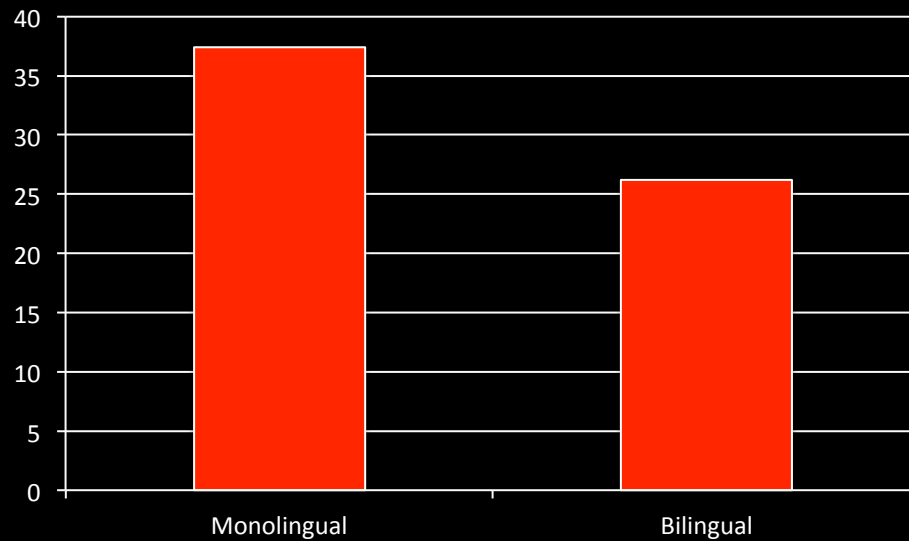


Nicoladis, 2006



Nicoladis & Marchak, 2011

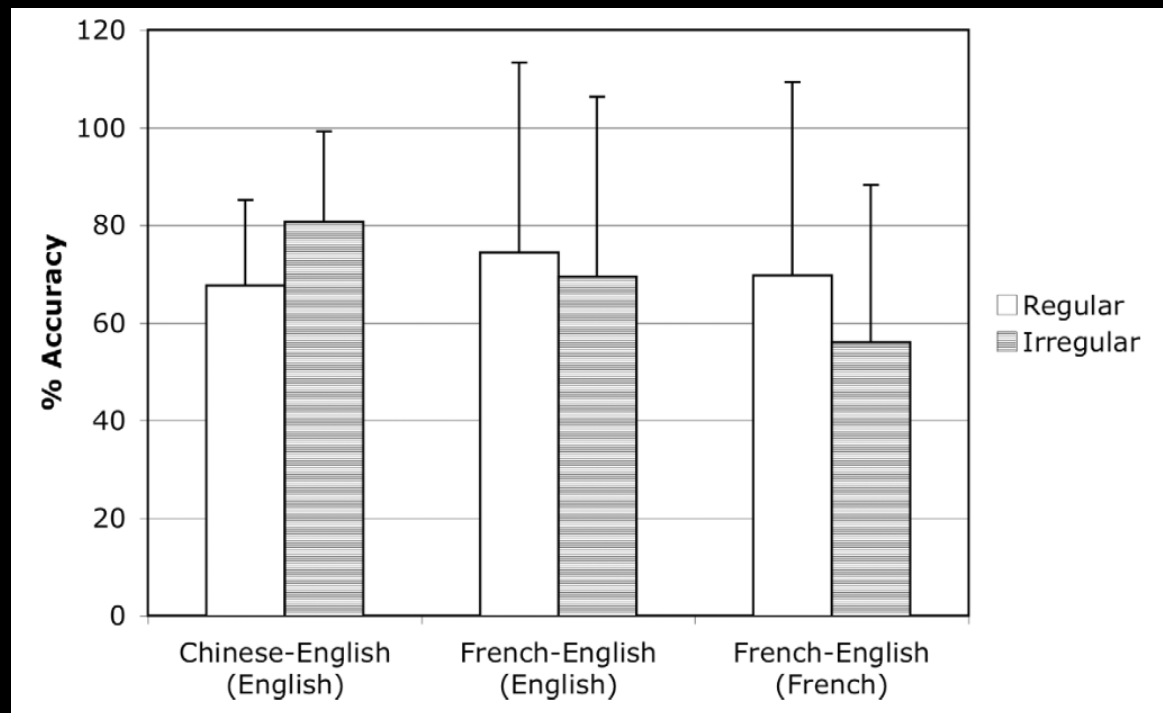
# Expressive vocabulary



Yan & Nicoladis, 2011

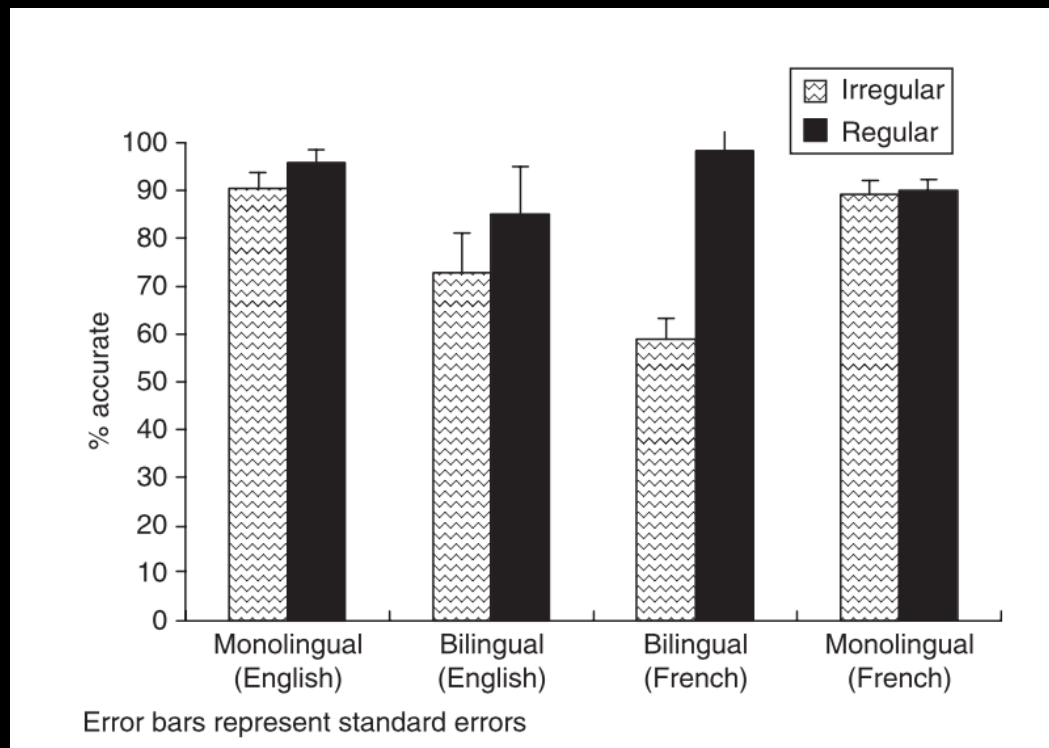


# Past tense morphology



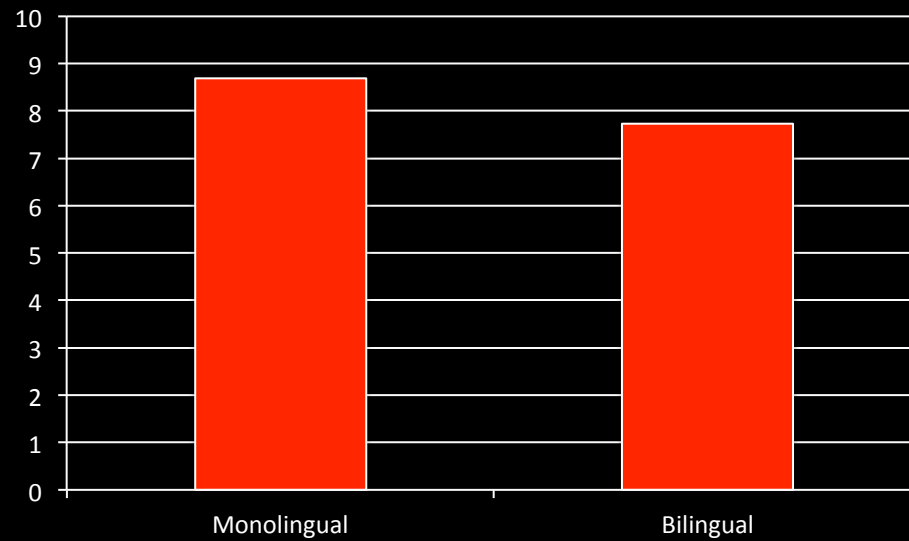
Nicoladis, Song, & Marentette, 2012

# More past tense morphology



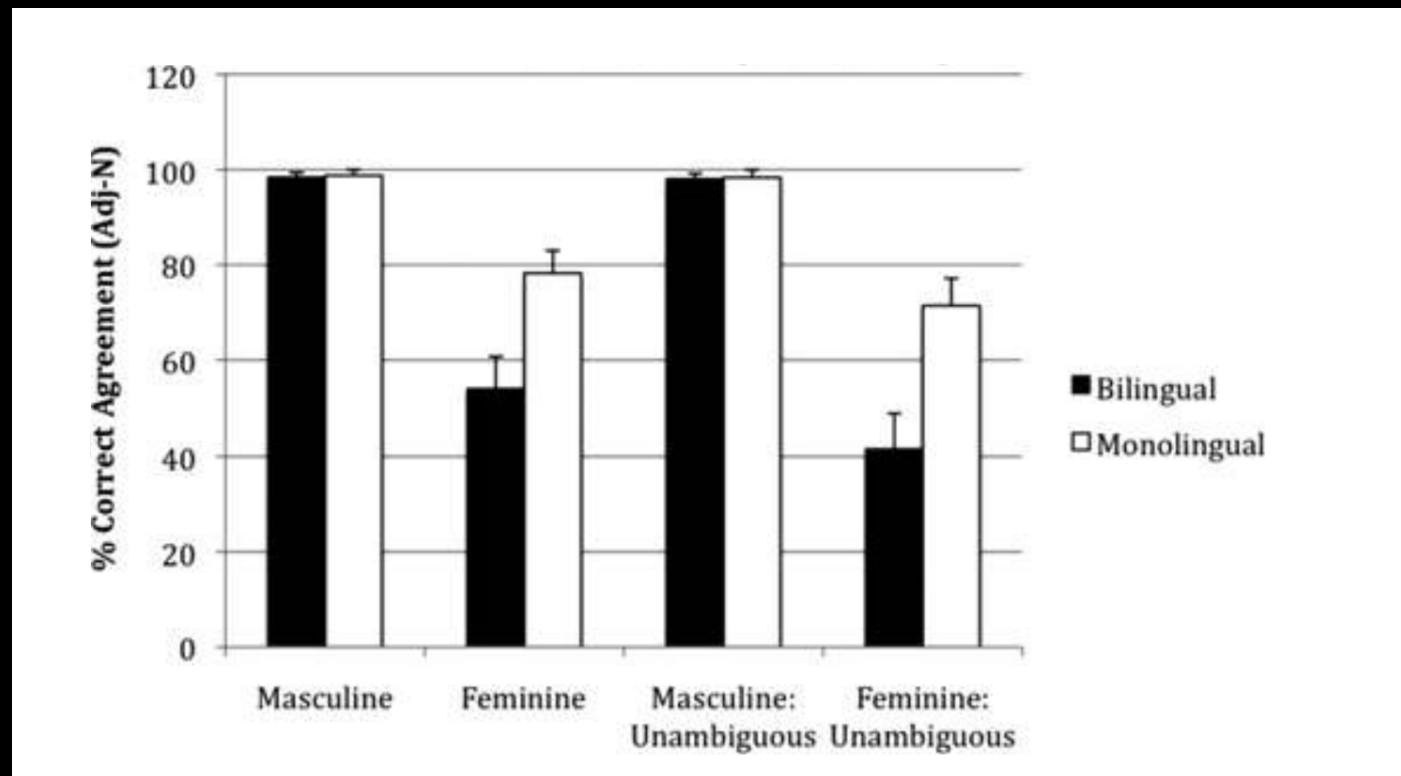
Nicoladis, Palmer, & Marentette, 2007

# Sentence production



Zarezade & Nicoladis, in prep.

# Agreement of French feminine adjectives

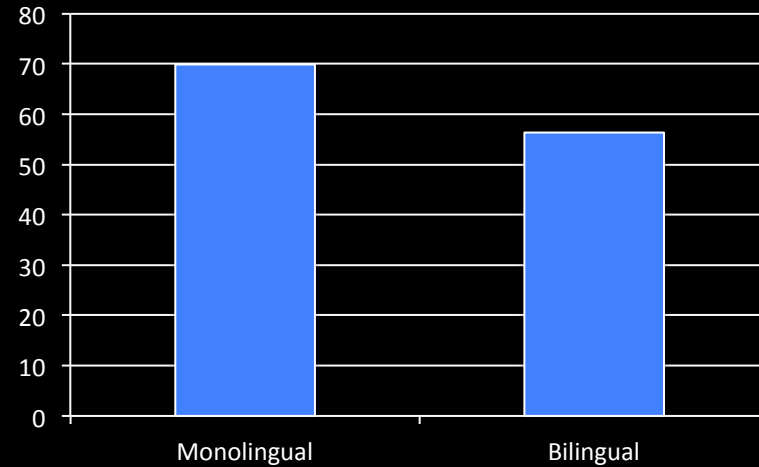
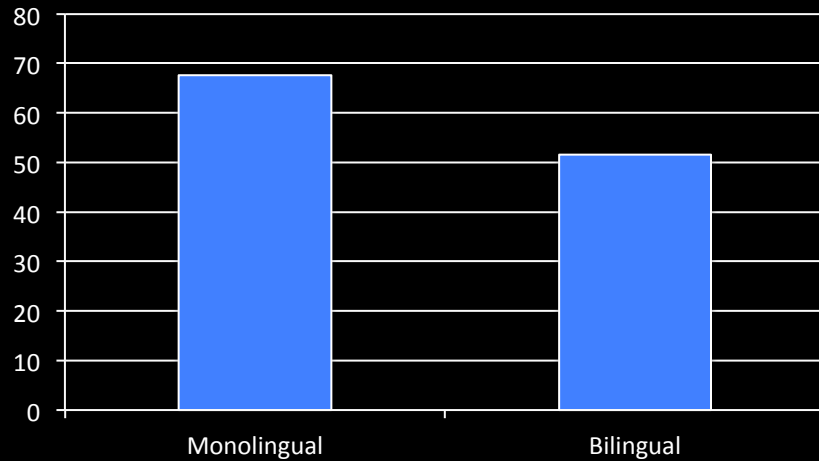
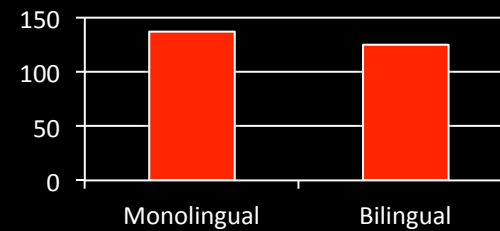
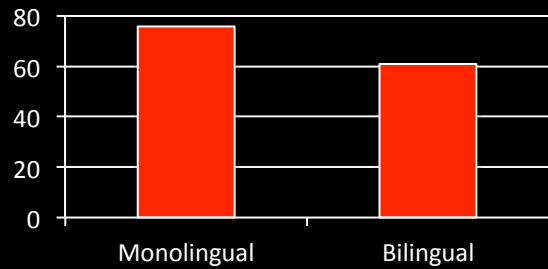


## Some aspects of language : No lag at all

- Aspect marking in English
- Regular past-tense marking
- Sentence comprehension (M 7.4, B 7.4)
- Syntax (e.g., Paradis & Genesee, 1996)
- Lexical variety in stories (e.g., Peets & Bialystok, 2015)

But not as behind as we might think...

# Receptive vocabulary



## Mystery #1 for UB theories

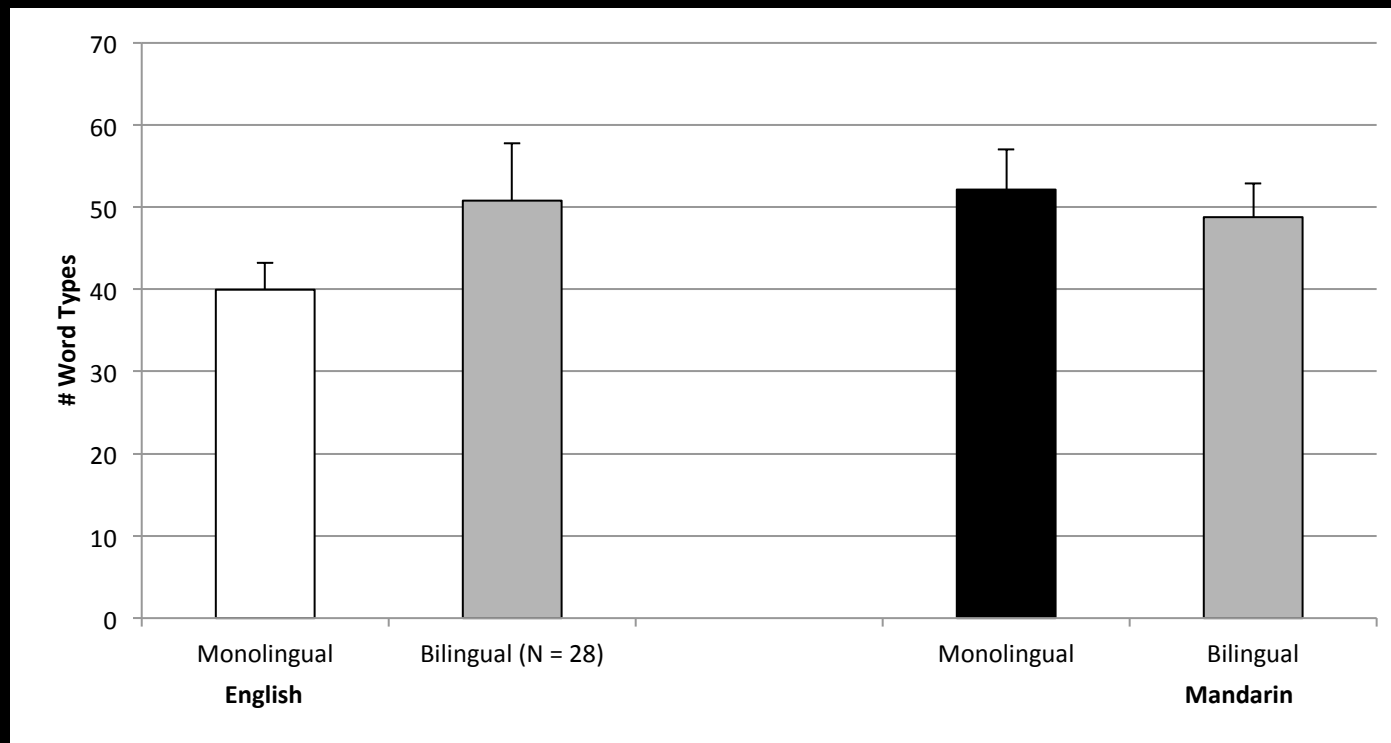
- Why are bilingual children not as far behind monolingual children as would be expected from their frequency of usage?



## Possible solution?

- Maybe bilingual children can use cognitive resources to go beyond their input

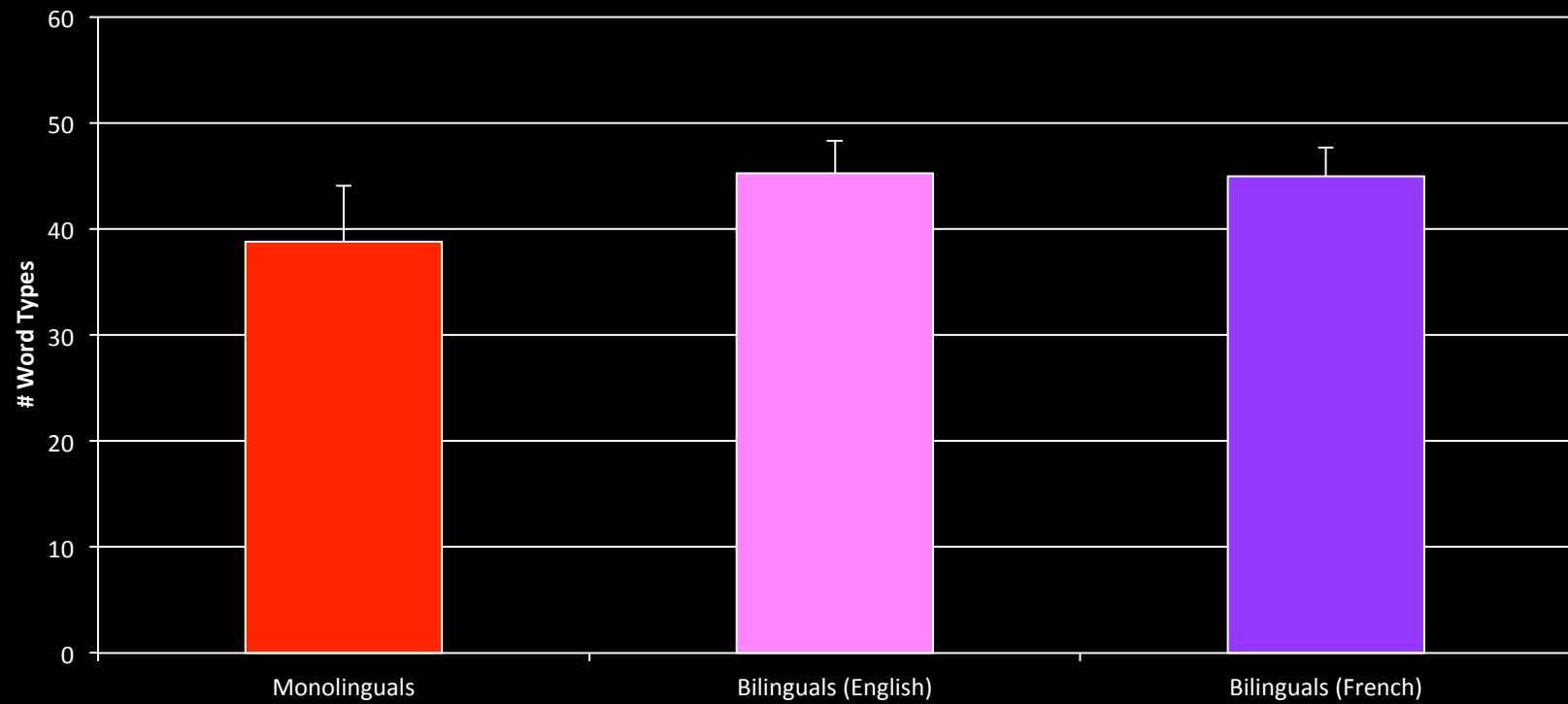
# Lexical variety in stories



# Predicting word types

- Regressions: Step 1 controls for age
- Step 2: vocabulary, attention shifting, VSWM
- Monolinguals:
  - Vocabulary = significant predictor
- Bilinguals:
  - English: attention-shifting significant (not vocab)
  - Mandarin: nothing significant

# Another example: lexical variety



# Predicting word types for bilinguals

- Regressions:
  - Step 1: age [not significant]
  - Step 2: PPVT/EVIP, visuospatial working memory, cognitive flexibility
- English
  - Only cognitive flexibility significant ( $p = .008$ )
- French
  - Only cognitive flexibility significant ( $p = .023$ )

## Possible solution

- Maybe bilingual children can use cognitive resources to go beyond their input
- Does not necessarily mean that bilinguals > monolinguals on these cognitive abilities
- Might be salient on language tasks allowing some degree of flexibility

## Brief pause for orientation

- Summary thus far
- UB theories predict bilinguals < monolinguals in each language
  - Yes
  - No

## Other bilingual phenomena...

- “I have a spicy bum”
- Other processing phenomena



# Cross-linguistic influence

- Phonology
  - I'm practiking (practice vs. pratiquer)
  - I can jungle! (jongler vs. juggle)
- Lexicon/Morphology
  - Pineapple (= pine cone; cf. pomme de pin)
  - Detest ketchup, unsnow, reclose
- Syntax
  - I want already to come back (cf. je veux déjà revenir)
- Idioms, other
  - Give me something of yellow (qqch de jaune)
  - I want to sit on your lapso (cf. tes genoux)

# Cross-linguistic influence

- Why do children manifest CLI?
- Most previous explanations have focused on syntactic CLI
  - Structure of their two languages (Döpke, 1998; Hulk & Müller, 2003)
    - **Overlap:** 2 languages have same/similar structure
      - French prenominal adjective: *le grand chapeau*
      - English prenominal adjective: *the big hat, the green hat*
    - **Ambiguity:** there are options in at least one language
      - French adjectives: *le grand chapeau AND le chapeau vert*

# Cross-linguistic influence

- CLI as structural influence
  - CLI with no overlap and no ambiguity (Nicoladis & Gavrilu, 2014; Nicoladis, 2002)
  - Overlap and ambiguity with no CLI (Nicoladis, Rose, & Foursha-Stevenson, 2010)

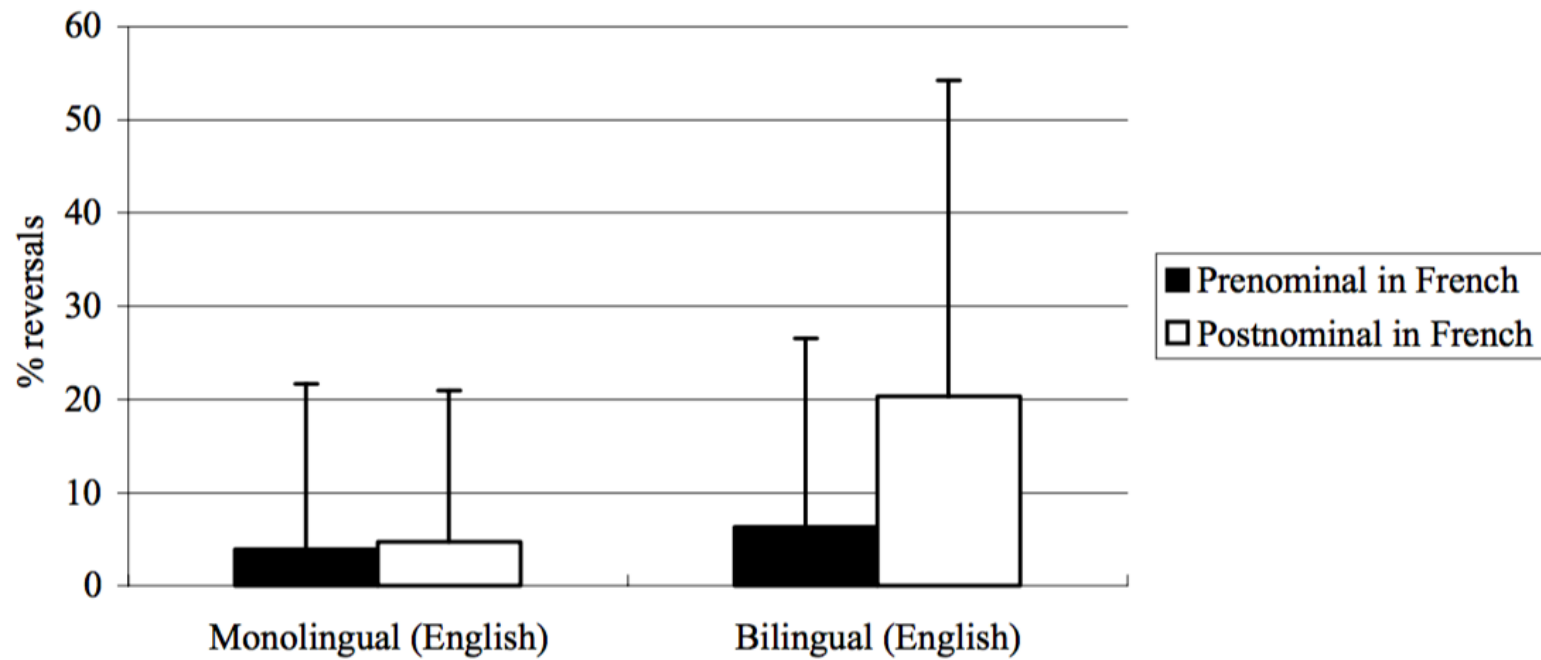
# CLI = processing

- CLI = speech errors
  - Low in frequency
  - Decreases with age
  - Appears when competition between two (or +) ways of articulating the same conceptual message

# French/English adjectives

- Language differences:
  - English
    - Default: prenominal adjectives
  - French
    - Default: postnominal adjectives
    - BUT some high-frequency prenominal adjectives
- Structural CLI predicts
  - Bilingual children will reverse ALL adjective-noun

# %Reversals



Nicoladis, 2006

## In other words...

- Bilinguals: a monkey purple > a monkey big
  - Purple = violet, postnominal in French
  - Big = grand, prenominal in French
- In other words, CLI does not extend to all adjectives
  - Only those with the same meaning

# Another processing phenomenon

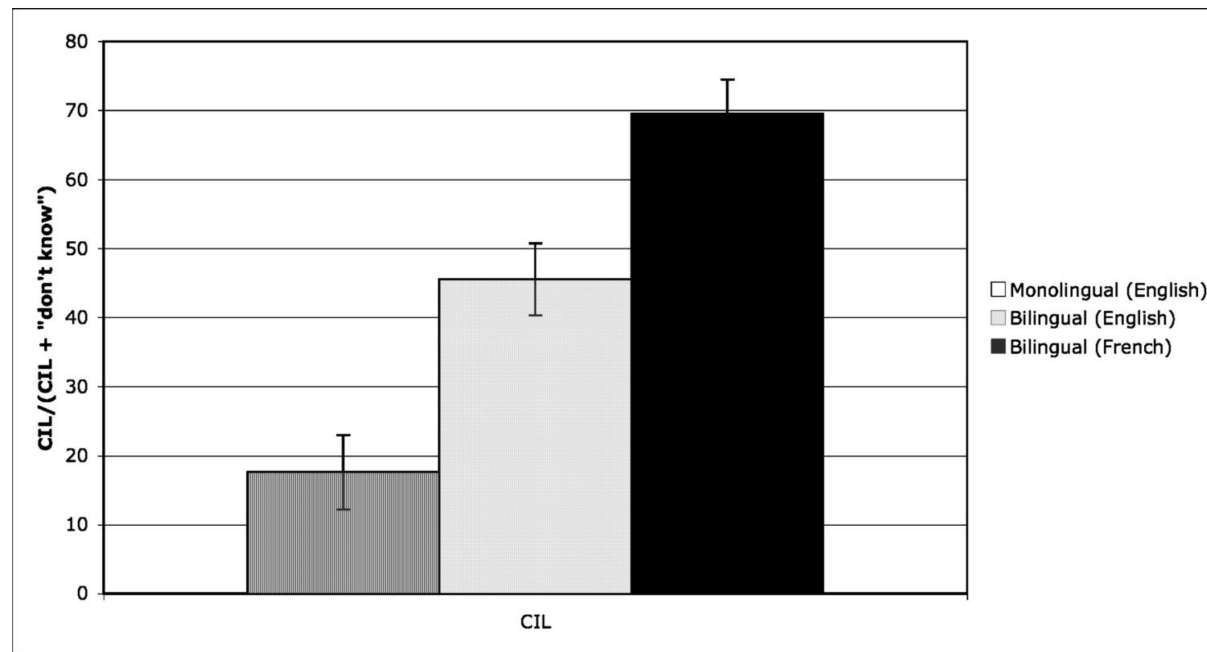


Figure 3. Average rate of items in the production task correctly identified later (CIL) on a comprehension test for each language group.



## Mystery #2 for UB theories

- How does language processing fit into the theories?
  - Competition between languages affects what children use
  - Comprehension and production

# Conclusion

- Usage-based theories aim minimally to describe, explain, predict typical language development
- Bilingual children's language poses some challenges:
  - High involvement of cognitive functions in some language tasks
  - Processing affects what children say (and understand)

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