WELCOME

BIENVENUE

WELKOM

VITAJTE

VÄLKOMMEN

DOBRODOŠLI

WITAJCIE

WILICOM

WILKOMMEN

ΚΑΛΟΣ

HRΩATE

VELKOMMEN
Bilingualism and Language Delay: Fact or Fiction

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Common myths

- Bilingualism causes language delay
- Bilingualism causes language confusion
- TV is great for teaching a second language!
- Bilingualism impairs cognitive ability
Bilingualism definitions/development

- Simultaneous bilinguals
  e.g., One-parent, one-language

- Sequential bilinguals
  e.g., L1 → L2 speakers, language immersion

Not what we mean...
Bilingualism and language delay...

MYTH!

- Dominance in one language ≠ disorder in another

- Ideal testing for bilinguals?
Bilingualism and language confusion...

MYTH!

- Code-switching = MASTERY

- One-parent, one-language
  - Quantity and quality are key!
Language learning and technology...

- Save your money (and your eyesight)!
- In person language exposure is best

Good for your playlist, but language development?
Bilingualism impairs cognitive ability...

MYTH!

Despite your political views, no evidence that Europeans are dumb...
Are there any benefits?

According to Zucker Parker Handbook\textsuperscript{1}:

- **Language**: increased phonemic awareness. Improved ability to breakdown words into sounds - foundation for reading/writing
- **Academic**: increased ability in math and understand what things mean
- **Cultural**: enhanced cultural awareness
  - Increasing global community
- **Other**: better abstract thinking, grasping rules, processing, creativity, cognitive flexibility

\textsuperscript{1}Augustyn et al. The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care. 3\textsuperscript{rd} Ed, 2011
What Does the Research Say?

Research shows that people who speak a second language are deemed more attractive.

Maybe...but that is not what we are going to tell our families.
What Does the Research Say?

- Majority of studies performed on preschoolers (ages 3-5)\(^1\)
  - However, advantages have been noted as early as 7 months\(^2\)

- Most studies examine executive functioning
  - Since bilinguals learn two sets of rules, they learn more from a mixed input, which requires cognitive flexibility\(^3\)
  - Ex: “Apples grow on noses.”\(^4\)
  - Monolingual: “That’s silly” and they stall
  - Bilingual: “It’s silly, but it’s grammatically correct”
  - Bilinguals manifested a cognitive system with the ability to attend to important information and ignore the less important.

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\(^1\) Psychological Science. 2009 10, 89–129
\(^2\) PNAS USA. 2009 106, 6556–6560
\(^3\) Dev Sci. 2012 Nov;15(6):812-6
\(^4\) [http://www.nytimes.com/2011/05/31/science/31conversation.html?_r=0](http://www.nytimes.com/2011/05/31/science/31conversation.html?_r=0)
What Does the Research Say?

- Faster and more accurate anticipation\(^1\)
- Improved task-switching\(^2\)
  - Dependent on how often one switches between languages on a daily basis
    - Spanish-English vs. Mandarin-English
- Improved executive functioning\(^3\)
  - Bilinguals/trilinguals > second-language learners > monolinguals
- Improved working memory\(^4\)
  - Especially when task contains executive function demands

\(^2\) J Int Neuropsychol Soc. 2011 Jul;17(4):682-91
\(^3\) J Exp Child Psychol. 2012 Dec;113(4):535-51
Bilingualism keeps on giving

- Advantages with executive function, working memory, and multitasking continue into adulthood\textsuperscript{1,2}
  - Ex: Monolinguals and bilinguals in a driving simulator
    - Through headphones, gave them extra tasks to do — as if they were driving and talking on cellphones. Then measured how much worse their driving got.
    - Everybody’s driving got worse, but bilinguals’ driving didn’t drop as much
    - Do NOT recommend multitasking while driving, regardless of language abilities!!

\textsuperscript{1}Psychology and Aging, Vol 19(2), Jun 2004, 290-303
\textsuperscript{2}http://www.nytimes.com/2011/05/31/science/31conversation.html?_r=0
Bilingualism keeps on giving

- Lifelong bilingualism maintains white matter integrity and functional connectivity with age\(^1\)
- Bilingualism may delay Alzheimer’s Disease\(^2\)
  - Diagnosed 4.3 years later
  - Symptoms 5.1 years later
- No evidence that it prevents Alzheimer’s Disease

\(^1\)J. Neurosci. 2011 Nov 16;31(46):16808-13
\(^2\)Neurology. 2010 Nov 9;75(19):1726-9
Potential Questions from Parents

- When to start teaching/speaking another language?
  - As early as possible - skills related to length of exposure
  - Earlier speech exposure does not accelerate speech acquisition
    - Womb is high-frequency filter
    - Preterm infants gain increased exposure, however, acquisition is correlated with brain maturation

1 J Neurosci. 2012 Aug 15;32(33):11159-63
Potential Questions from Parents

- If I didn’t start as a baby, is it too late?
  - No – ability to transfer skills from one language to another
    - Native-like annunciation easier for younger children
    - Grammar, vocabulary, syntax, and literacy easier for older individuals due to transfer

- I don’t speak another language, can my baby learn one?
  - Yes

- Does my child have to attend an international school?
  - No
Clinical Example

- 2 year-old Chinese Male
- Recent diagnosis of Autism
- Speech and language delay – only saying a couple of words
- Parents speak Mandarin and some English
  - How can parents help their child improve language?
  - Should parents speak Mandarin, English, or both at home? Outside of home?
  - Does he need speech therapist fluent in Mandarin, English, or both?

Not the answer...
References

