

- **Is there an age effect in second-language acquisition?**
- **Background and case studies**

Background preparation:

- *Kaplan (2016), Ch 6, "Adults can't learn a new language", sections 6.0, 6.1, and 6.2*

1. Introduction

- Two big Qs about learning a second language (L2):
 - Why is it (typically) less successful than learning a native language?
 - Why are some people better at it than others?
 - Note: It is possible to have more than one so-called “first” language → *simultaneous bilinguals*
- **What** are some key differences between first and second language that might cause this kind of difference in acquisition success?
 - **Why** might these factors matter?

1. Introduction

Some key differences between L1 and L2...

- **Social context:** Learning a second language often happens in a classroom or in the course of getting around in a new society
 - Does this make learning an L2 harder?
- **Prior language learning:** When L2 is acquired, the brain has already changed to store the L1 system
 - Does this make it harder to learn or store another?

1. Introduction

Some key differences between L1 and L2...

- **Age:** by definition, L1 is learned earliest
 - Does age matter because there is a biologically/developmentally determined ***critical period*** for language acquisition?

2. Age effects / critical period hypothesis

- Kaplan (2016: 112)

Critical period hypothesis (emphasis added):

- The idea, essentially, is that all humans are capable of learning a language natively while they're young.
- But **at some point** in the aging process, **maturational changes** (probably in the brain) **take this ability away**;
- if you start learning a language after this point, you will never be as fluent as a native speaker,
- because **the language-learning abilities you had as a child** are simply **gone**.

2. Age effects / critical period hypothesis

- What are some examples of critical periods for development in non-humans?

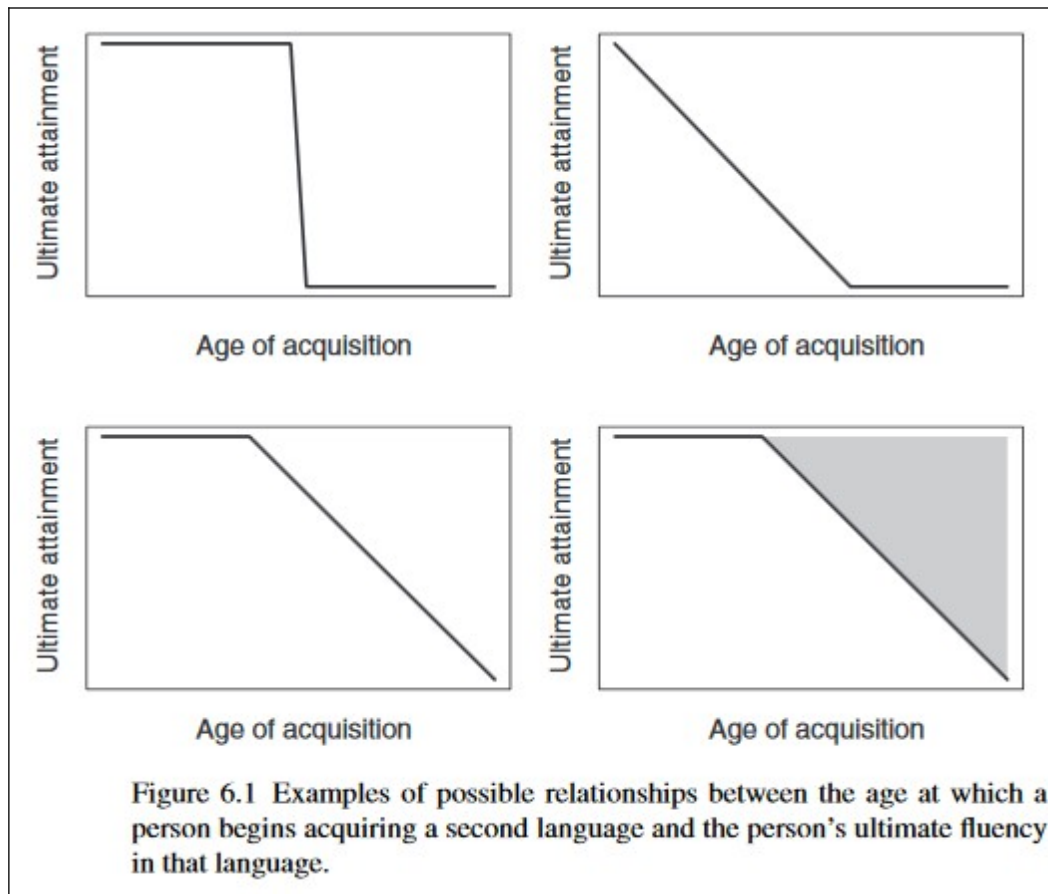
2. Age effects / critical period hypothesis

- Kaplan (2016: 112)

- Does the ability to learn a second language **drop off sharply** after a certain age, or is there a **more gradual decline**?
- After the critical period, are people **uniformly unable** to achieve native-speaker fluency in a second language, or are there a few exceptional individuals who can do this?
- In this chapter, we will use ***critical period hypothesis*** as a general term for the idea that **age matters in some way** for second-language acquisition, regardless of the specific kind of effect it has.

2. Age effects / critical period hypothesis

- Some possible **relationships** between age of acquisition and ultimate attainment in L2



- Which show a “critical period effect” in Kaplan’s terms?
- Which resemble non-human examples of critical periods?

3. Case studies on age effects in L2 acquisition

- Questions we will focus on
 - Who were the participants? (L1? Age? Other?)
 - What was the task?
 - What aspect of grammar was involved?
 - Was there an age effect? What kind?
 - Concerns/problems with study or interpretation?

Johnson & Newport (1989)

- Participants:
- Task:
- Aspects of grammar:

Johnson & Newport (1989)

- Participants:
 - Adults, L1 Chinese or Korean / L2 English
- Task:
 - Hear English sentences; decide if grammatical
- Aspects of grammar:
 - Knowledge of syntax
 - Task also requires phonological processing

Johnson & Newport (1989)

- Results: Age effect? What kind?

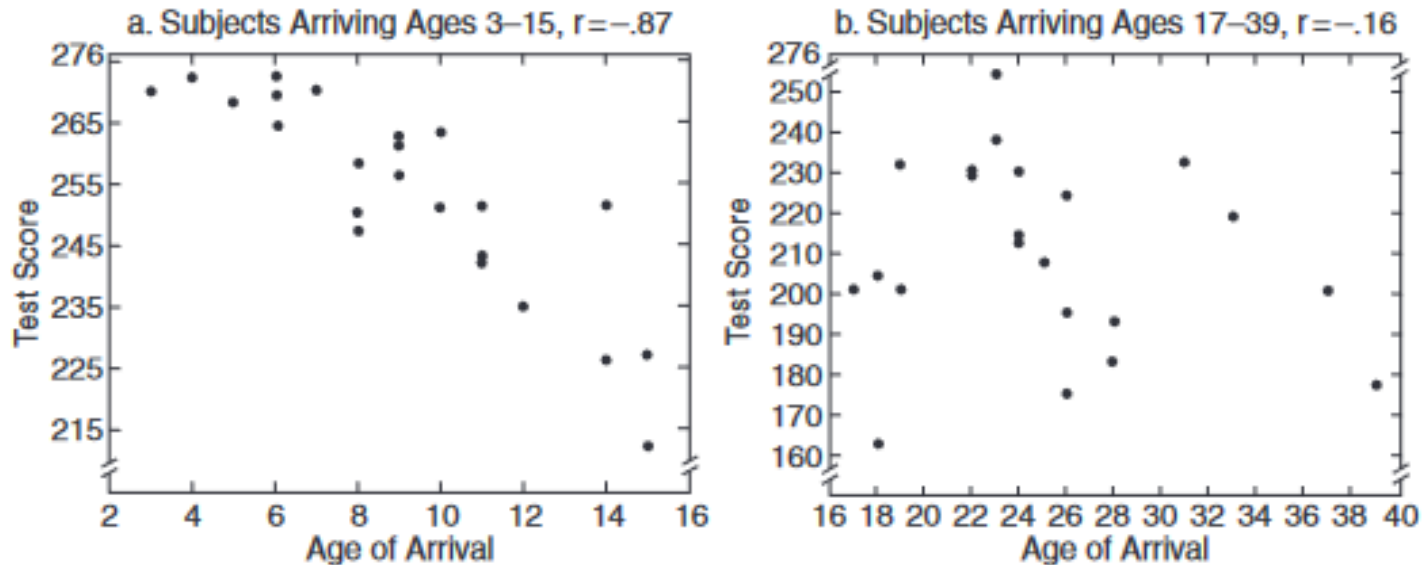


Figure 6.2 Relationship between age of arrival in the United States of Chinese and Korean immigrants and performance on an oral test of English syntax. Reprinted from *Cognitive Psychology*, 21, Jacqueline S. Johnson and Elissa L. Newport, Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language, 60-99, copyright 1989, Figure 2, with permission from Elsevier.

- Concerns/problems?

Flege et al. (1995)

- Participants:
- Task:
- Aspects of grammar:

Flege et al. (1995)

- Participants:
 - Adults, L1 Italian / L2 English
- Task:
 - Their speech was rated by native English speakers for native-likeness/accentedness
- Aspects of grammar:
 - Phonological production

Flege et al. (1995)

- Results: Age effect? What kind?

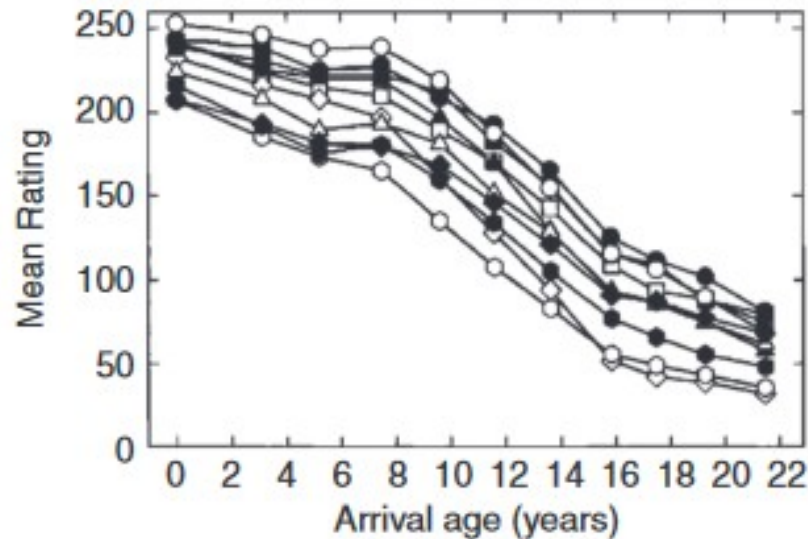


Figure 6.3 Foreign accent ratings by ten native English speakers for Italian immigrants who arrived in Canada at various ages. Native speakers are given an arrival age of 0. Reprinted with permission from James Emil Flege, Murray J. Munro, and Ian R. A. MacKay, Factors affecting strength of perceived foreign accent in a second language, *Journal of the Acoustical Society of America* 97(5):3125–3134. Copyright 1995, Acoustical Society of America.

- Concerns/problems?

DeKeyser (2000)

- Participants:
- Task:
- Aspects of grammar:

DeKeyser (2000)

- Participants:
 - Adults, L1 Hungarian / L2 English
- Task:
 - Replicates Johnson & Newport (1989)
 - Adds a language-learning aptitude test
- Aspects of grammar:
 - Knowledge of syntax
 - Task requires phonological processing

DeKeyser (2000)

- Results: Age effect? What kind?

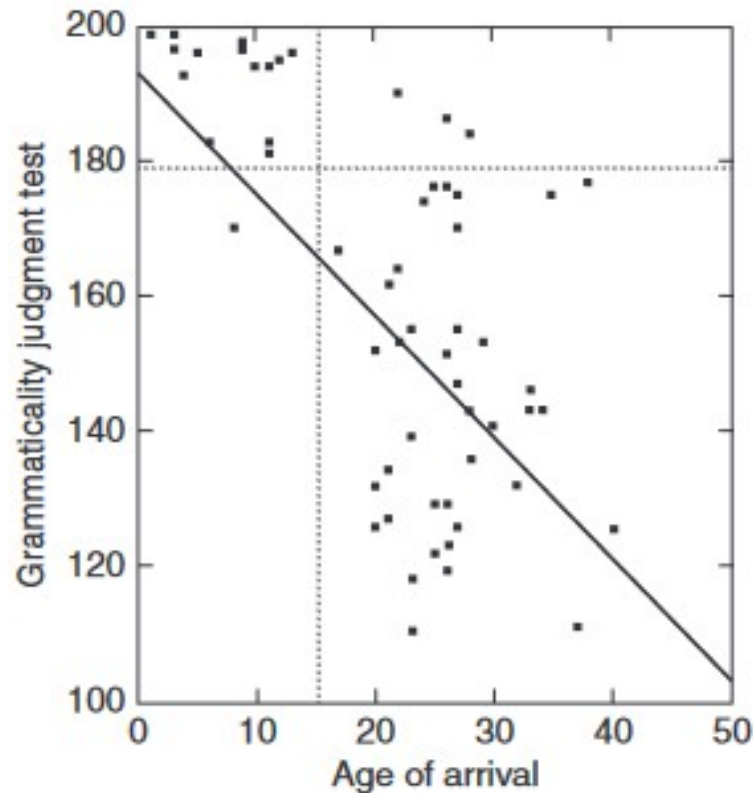


Figure 6.4 Relationship between score on a test of English syntax and age of arrival in the United States for Hungarian immigrants. Robert M. DeKeyser, *The robustness of critical period effects in second language acquisition*, *Studies in Second Language Acquisition* 22(4):2000, 499–533, Figure 1.

DeKeyser (2000)

- What was the finding about participants' scores on a **language-learning aptitude** test?
 - Why was this of interest? How does it relate to the critical period hypothesis?
- Concerns/problems about this study overall?
 - How does this compare to Johnson & Newport (1989)?

Hakuta et al. (2003)

- Participants:
- Task:
- Aspects of grammar:

Hakuta et al. (2003)

- Participants:
 - Adults, L1 Chinese or Spanish / L2 English
- Task:
 - Analysis of US Census responses about English proficiency
- Aspects of grammar:
 - Not differentiated!

Hakuta et al. (2003)

- Results: Age effect? What kind?

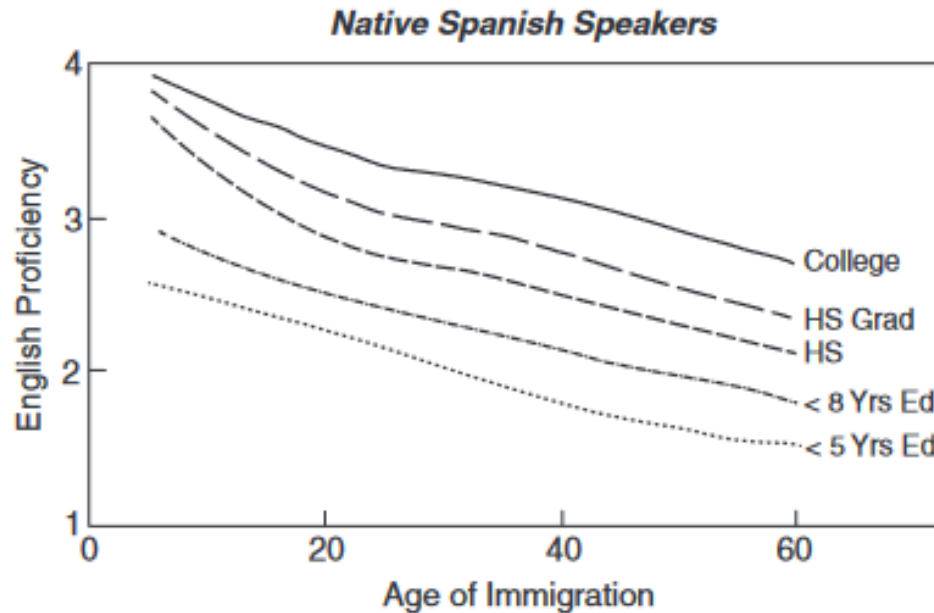


Figure 6.5 Smoothed curves representing English proficiency vs. age of arrival for Spanish speakers by level of education. Kenji Hakuta, Ellen Bialystok, and Edward Wiley, *Critical evidence: A test of the critical-period hypothesis for second-language acquisition*, *Psychological Science* 14(1), pp. 31–38, Figure 3, copyright 2003. Reprinted by permission of SAGE Publications.

- Concerns/problems?

4. Age effects / critical period, revisited

- Do the case studies support an age effect in L2 acquisition?
- If so, what is it like?
 - Which of the schematic graphs have we seen represented?
 - Does it differ across aspects of grammar?
 - Does it differ by L1 group / cultural group?
- Next time: New case-study presentation
- After that: More about the age effect (sec 6.3)