English Proficiency and Socioeconomic Outcomes
Relation to Age at Arrival and the “Critical Period” of Language Acquisition

Hoyt Bleakley
Aimee Chin

CHICAGO GSB
UNIVERSITY of HOUSTON
Motivation 1

• Some facts:
  1. About 1 in 5 children in US is child of an immigrant
  2. Children of immigrants will be rising share of the population for years to come
  3. Many in homes in which English is not spoken
  4. In the 1990s, US enrollment grew 24%; LEP enrollment grew 105%

• Childhood immigrants as a bridge
  • ...between first and second generation

• Age at arrival to the US
  • ...affects culture, education, health, etc.
Motivation 2

• Culture versus Constraints
  – Are US immigrants’ outcomes the result of their cultural preferences, or of more fundamental constraints?

• Case in point: English-language proficiency

• Critical period of language acquisition
Critical Period in Language Acquisition

• Younger children learn new languages more easily than older children.

• Consider foreign-born children who follow their parents to the US. Those who arrive at a younger age (low age at arrival) will be able to learn English more easily.

• Can’t attribute all age-at-arrival effects to language. Use immigrants from English-speaking countries as comparison.

• Our central variable in the analysis is the interaction between age at arrival and whether the country of origin is Anglophone or not.
English-Speaking Ability by Age at Arrival
Look for the ‘Footprint’ of the Critical Period in Socioeconomic Outcomes

1. Years of Schooling versus Age of Arrival
2. Adult Income versus Age of Arrival
3. Compare Coefficients
4. Instrumental Variables (IV) Estimates
5. Intergenerational: English of their Children
6. Social Outcomes:
   1. Marriage/Divorce
   2. Spousal Outcomes (“sorting”)
   3. Fertility
   4. Residence (“enclaves”)

Years of Schooling by Age at Arrival

![Graph showing years of schooling by age at arrival in the U.S. for non-English country of birth (blue diamonds) and English country of birth (pink squares).](image-url)
Income by Age at Arrival
$y = 0.4115x - 0.0077$

IV estimate
Intergenerational: Child’s English Ability by Immigrant Parent’s Age at Arrival

![Graph showing the difference in mean English ability by age at arrival for immigrant parents, with lines indicating children aged 5-6 and 16-17.](Graph.png)
Currently Married with Spouse Present by Age at Arrival

Regression-adjusted means

- non-Eng ctry of birth
- English ctry of birth

Age at arrival in the U.S.

Regression-adjusted means
Spouse’s English-Speaking Ability by Age at Arrival

Regression-adjusted means

Age at arrival in the U.S.

- non-Eng ctry of birth
- English ctry of birth
Number of Children Living in Same Household by Age at Arrival

Regression-adjusted means

- Non-English country of birth
- English country of birth
Fraction of PUMA Population from Same Country of Birth by Age at Arrival

Regression-adjusted means

- non-Eng ctry of birth
- English ctry of birth
Robustness Checks

• Key identifying assumption: Immigrants from non-English-speaking countries experience the same non-language age-at-arrival effects as immigrants from English-speaking countries

• But non-language age-at-arrival effects could differ. Anglophone countries…
  – tend to be richer,
  – have better school systems,
  – and their culture and institutions may be more similar to US

• We do the following:
  – Allow age-at-arrival effects to differ by origin-country characteristics: GDP, fertility, school quality, life expectancy
  – Drop Canada and/or Mexico.
  – Focus on the Americas only.
  – Allow for region-specific linear trends
Discussion

• Age at arrival and Critical Period leave their “footprint” in the data

• Working through English proficiency? Better English…
  – higher wages, more education
  – have children with worse educational outcomes
  – more likely be divorced
  – among those married with spouse present, spouse native, higher earning and more educated
  – fewer children
  – less likely to be in enclave, especially for women

• Relation to policy and public debates
  – When/how to target children of immigrants
  – Point system for immigration and age?
  – Evidence of constraints, rather than simply preferences