Roles of the number naming system and home experiences in numeracy development: Comparison of Chinese and Turkish

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Introduction

- Regular number naming systems facilitate children's counting knowledge (Miller et al., 1995).
- Parents' numeracy-related beliefs, attitudes, and home activities influence children's early numeracy knowledge (LeFevre et al., 2002).

Number Names

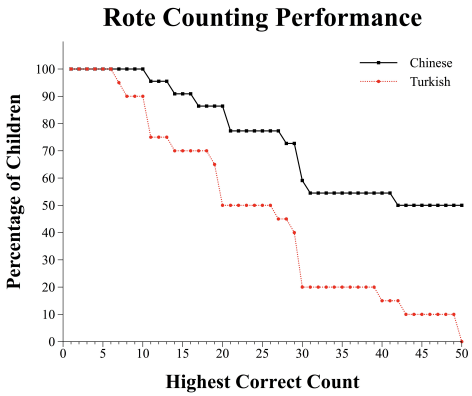
Arabic Number	Chinese	English	Turkish
1	yi	one	bir
2	er	two	iki
3	san	three	üç
…	…	…	…
10	shi	ten	on
11	shi-yi	eleven	on bir
12	shi-er	twelve	on iki
…	…	…	…
19	shi-jiu	nineteen	on dokuz
20	er-shi	twenty	yirmi
21	er-shi-yi	twenty-one	yirmi bir

Note. Adapted from Rasmussen et al. (2006).

Methods

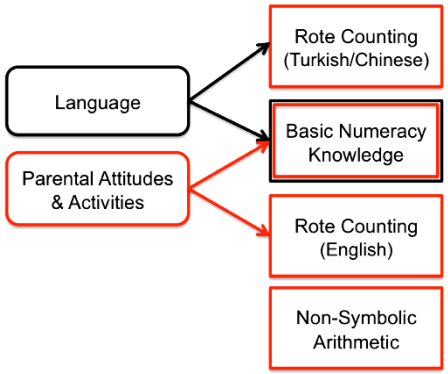
- Chinese (*n* = 22) and Turkish (*n* = 20) children
- Tested in Ottawa
- Ages: 36 to 80 months (*M* = 60)
- Rote counting (Chinese/Turkish and English), KeyMath numeration subtest, object counting, spatial span, and non-symbolic arithmetic task
- Parent Questionnaire (*n* = 42)

Results



- **Differences: Chinese > Turkish**
  - rote counting in Chinese/Turkish
  - basic numeracy knowledge (KeyMath)
- **NO Differences: Chinese = Turkish**
  - spatial span
  - non-symbolic arithmetic
  - object counting
  - rote counting in English
- **Parents Attitudes and Activities: Chinese > Turkish**
  - attributed more importance to the acquisition of literacy and numeracy skills.
  - exposed children to reading and books more frequently.

Regression Analysis



- Age, parent education, and number of books at home are controlled.

Conclusions

- The regularity of the number naming system did not appear to help Chinese- and Turkish-speaking children learn to count equally.

Differences in parents' attitudes and home activities are as relevant in understanding children's acquisition of number naming system knowledge as language-specific effects.

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