



Spoken word recognition: Native vs. L2 learners of English



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Introduction

Word recognition involves two levels of representations

- Sublexical level:
 - Individual sounds and sound sequences
 - Phonotactic probability (frequency of sound occurrence in words)
- Lexical level:
 - Whole words
 - Neighborhood density (number of similar sounding words)

p æ t
k æ p
k i t
_ æ t
k æ s t
etc.

Vitevitch & Luce (1999) examined the differential effects of phonotactic probability and neighborhood density (sublexical vs. lexical) in word recognition

- RT:
 - Words (lexical):
 - high probability/density > low probability/density → competition (density effect)
 - Nonwords (sublexical):
 - high probability/density < low probability/density → facilitation (probability effect)

Questions

- Do L2 learners recognize L2 words and nonwords based on two-level representation system?
- Do L2 learners and native speakers exhibit the same pattern?
 - L2 learners may be different from native speakers due to
 - Difficulty with processing L2 sounds → sublexical
 - Fewer vocabulary → lexical

Method

Participants

- Native English group
 - n = 43 (age 18-36)
- L2 English group
 - n = 39 (age 18-35)
 - L1 Chinese (n = 19), L1 Japanese (n = 20)
 - High English proficiency
 - Mean AOA (month) = 248 (84-390)
 - Mean LOR (month) = 58 (8-204)

Stimuli

- 68 CVC

	High PP/D	Low PP/D
Words	17	17
Nonwords	17	17

- Fillers (34 pairs for words and nonwords)

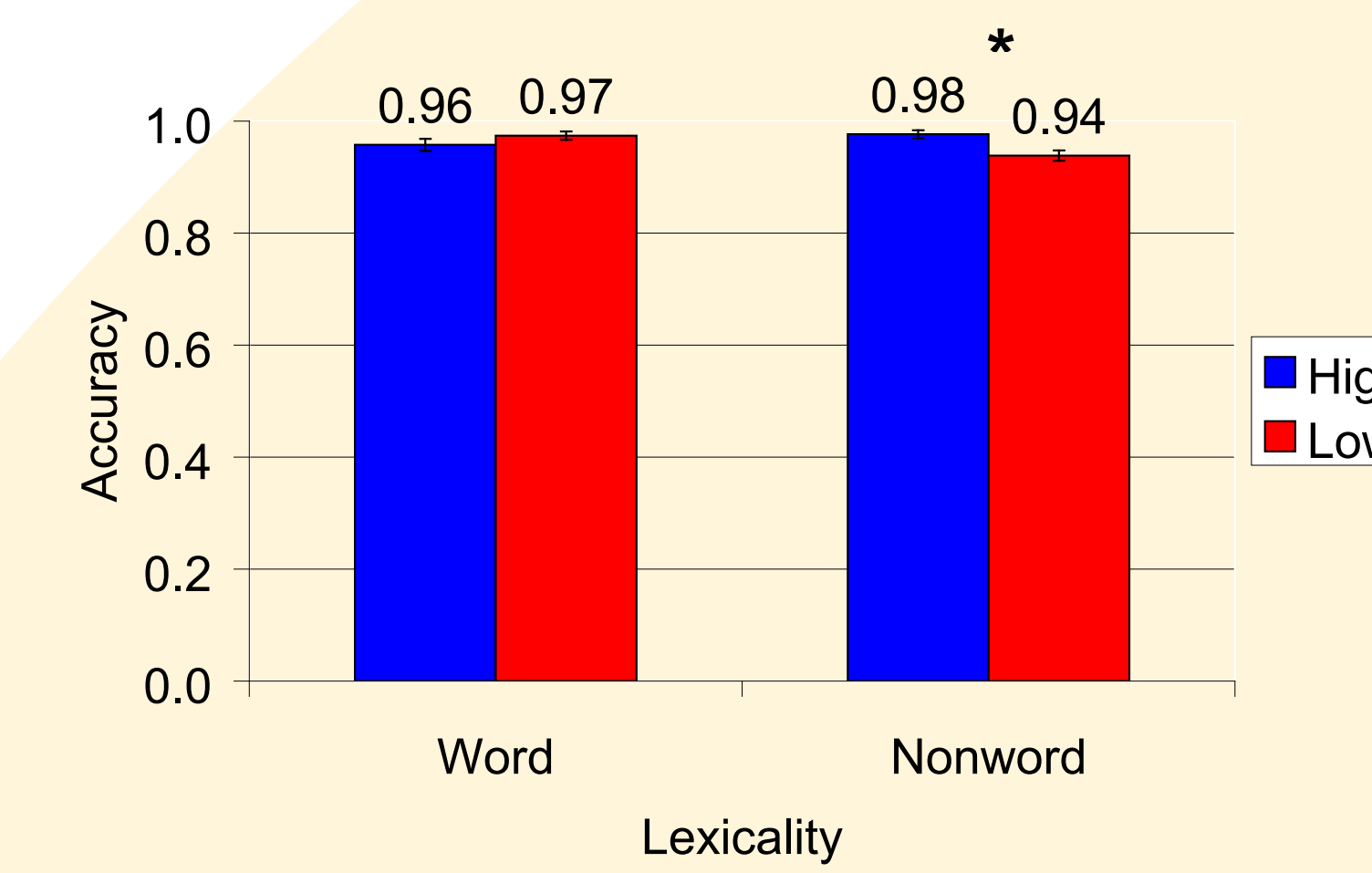
Same-different task

- Ss heard two stimuli and judged same/different with button responses
 - Same/Different
 - Same = test stimuli
 - Different = fillers
- Words vs. nonwords blocked and counterbalanced across Ss
 - Accuracy and RT measured

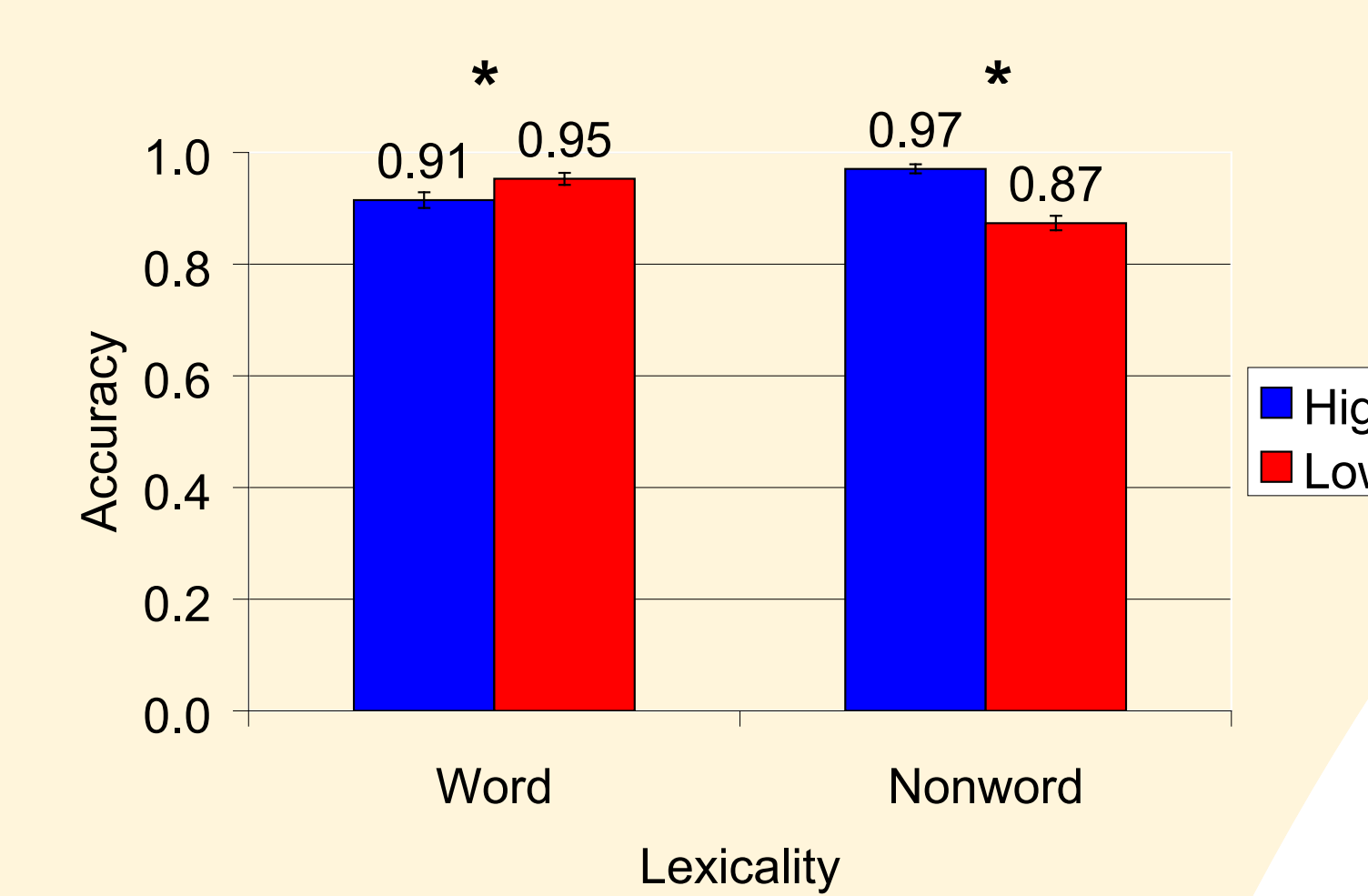
Results

Accuracy

- Native English Group

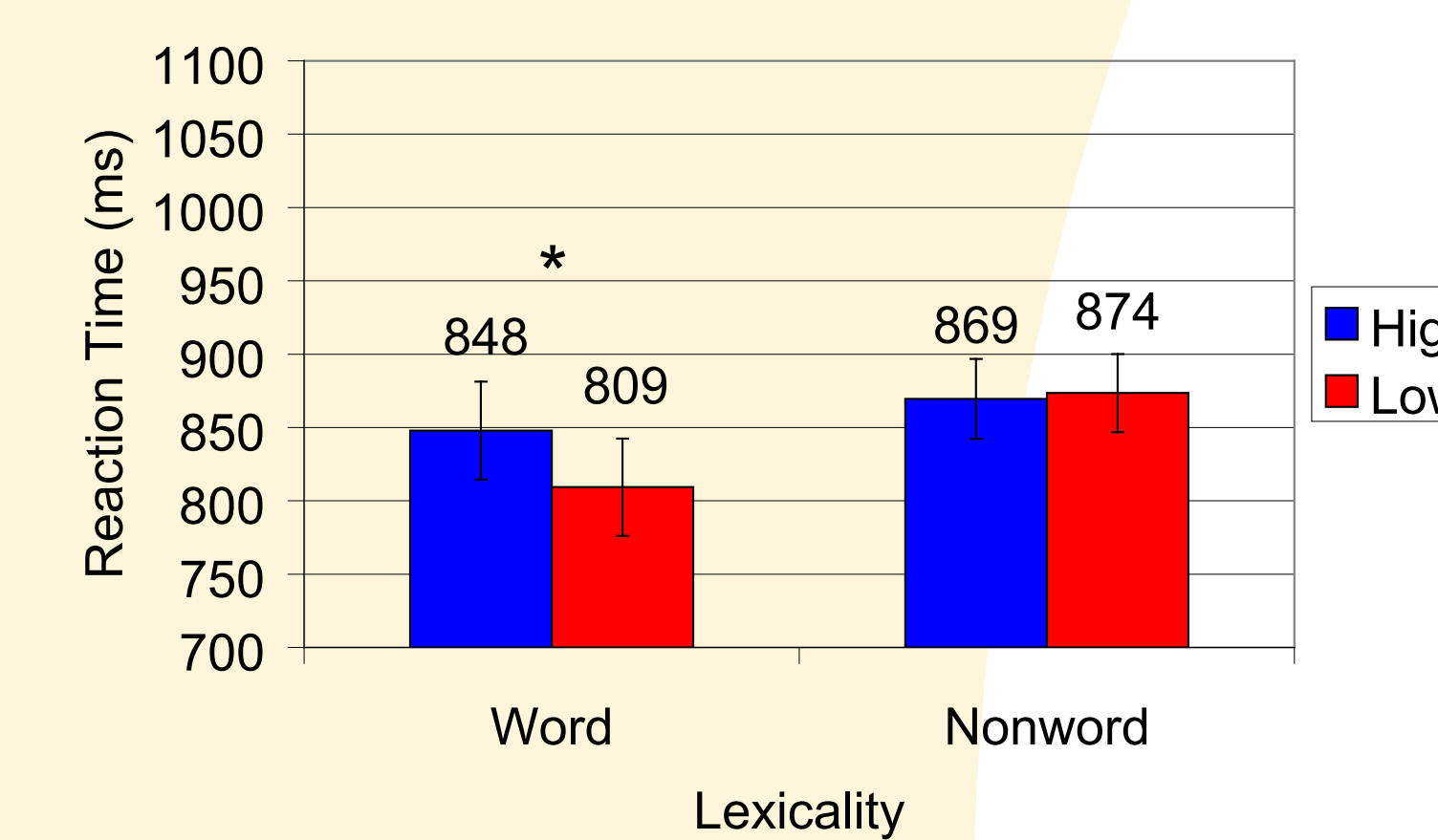


- L2 English Group

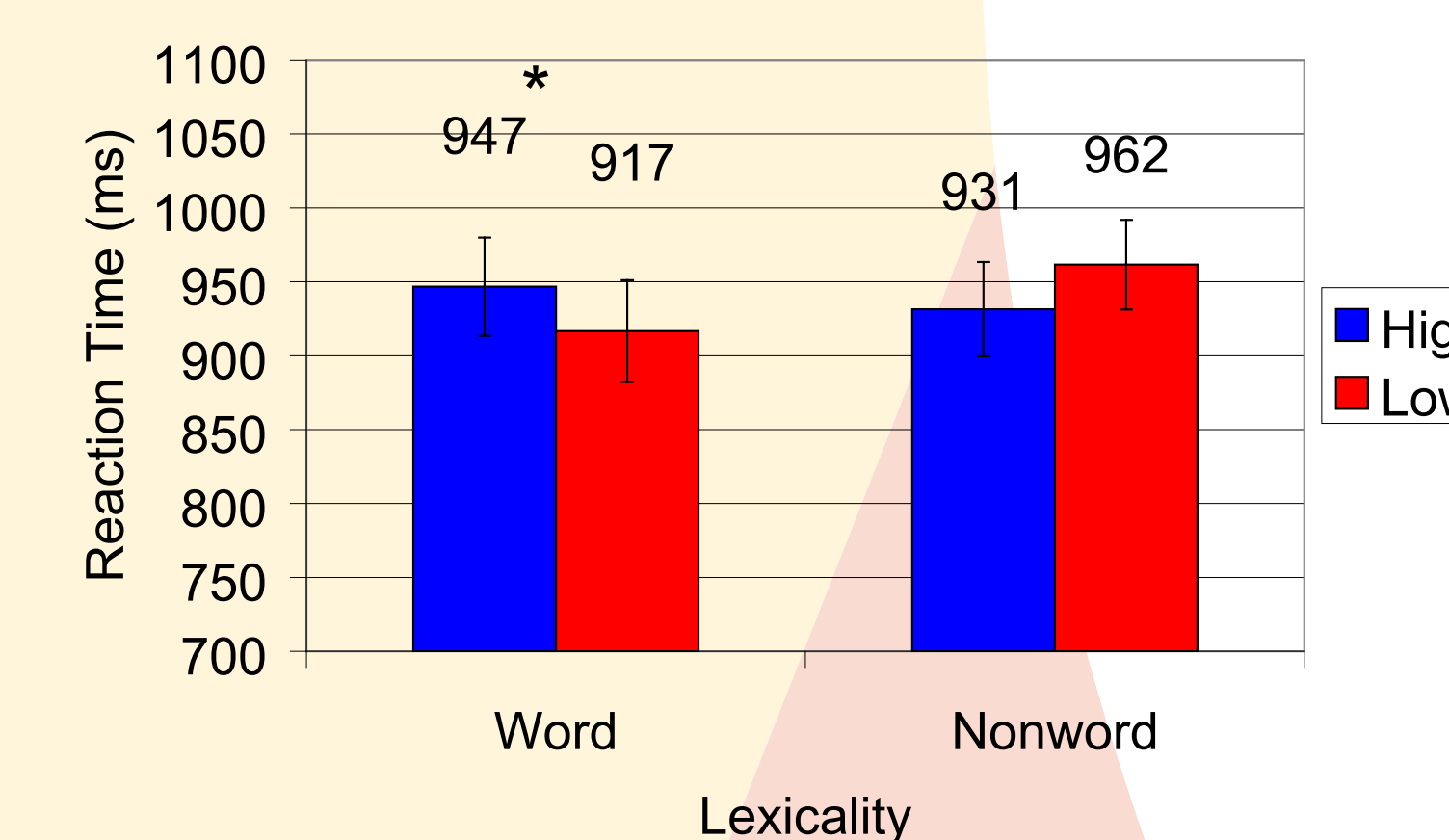


RT

- Native English Group



- L2 English Group



Summary and conclusion

Patterns similar between Native English and L2 English

- Significant interaction of lexicality x probability/density
 - Words: low probability/density words were recognized more easily than low probability/density words
 - Nonwords: high probability/density nonwords were recognized more easily than high probability/density nonwords

Native speakers and L2 learners are similar in organizing and processing English words/nonwords

- Lexical → competition
- Sublexical → facilitation

Future directions

Additional evidence with different L1 groups

Phonological factors

- L1-L2 mismatch

Individual differences within an L2 group

- Proficiency levels

For more information
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