

The Productivity of Variable Disyllabic Tone Sandhi in Tianjin Chinese

Jie Zhang^a

Jiang Liu^b

^aDepartment of Linguistics, University of Kansas, USA

^bDepartment of Asian Languages and Literatures, University of Minnesota, USA

Running head: Tone Sandhi Productivity in Tianjin Chinese

Correspondence should be addressed to:

Jie Zhang

Department of Linguistics

The University of Kansas

1541 Lilac Lane

Blake Hall, Room 427

Lawrence, KS 66045-3129

Email: zhang@ku.edu

Phone: +1 785-864-2879

Fax: +1 785-864-5724

Appendix 3: ANOVA Results for Lexical Frequency Comparisons

Repeated-Measures ANOVA results for the effects of Lexical Frequency and Data-Point for the six sandhis are given in (a)-(f), respectively. For each sandhi, two comparisons for the REAL words based on the token frequency of the disyllabic word (high vs. low) and the token frequency of the first syllable (high vs. low) and one comparison for the PSEUDO words based on the token frequency of the first syllable were conducted. Comparisons that showed a significant difference in either pitch means (Lexical Frequency main effect) or pitch shapes (Lexical Frequency \times Data-Point interaction) are indicated by shading in the tables.

(a) L+L \rightarrow LH+L (T1+T1 \rightarrow T3+T1):

	Lexical-Frequency	Data-Point	Lex-Freq \times Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = .577, p=.451	F(1.456, 68.442) = 36.902, p<.001	F(2.458, 115.507) = 6.507, p=.001
REAL- σ 1-High vs. REAL- σ 1-Low	F(1.000, 47.000) = 1.744, p=.193	F(1.425, 66.965) = 36.683, p<.001	F(2.158, 101.407) = 33.667, p<.001
PSEUDO- σ 1-High vs. PSEUDO- σ 1-Low	F(1.000, 47.000) = 9.253, p=.004	F(1.517, 71.298) = 24.920, p<.001	F(1.745, 82.004) = 9.326, p<.001

(b) LH+LH \rightarrow H+LH (T3+T3 \rightarrow T2+T3):

	Lexical-Frequency	Data-Point	Lex-Freq \times Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = 2.903, p=.095	F(1.819, 85.505) = 219.969, p<.001	F(3.163, 148.654) = 9.905, p<.001
REAL- σ 1-High vs. REAL- σ 1-Low	F(1.000, 47.000) = .001, p=.971	F(1.938, 91.070) = 215.762, p<.001	F(3.009, 141.421) = 11.303, p<.001
PSEUDO- σ 1-High vs. PSEUDO- σ 1-Low	F(1.000, 47.000) = 7.890, p=.007	F(2.221, 104.367) = 102.882, p<.001	F(3.143, 147.712) = 16.177, p<.001

(c) HL+L \rightarrow H+L (T4+T1 \rightarrow T2+T1):

	Lexical-Frequency	Data-Point	Lex-Freq × Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = 6.754, p=.012	F(1.397, 65.678) = 8.221, p=.002	F(1.816, 85.346) = 1.251, p=.289
REAL-σ1-High vs. REAL-σ1-Low	F(1.000, 47.000) = .671, p=.417	F(1.399, 65.760) = 8.271, p=.002	F(2.129, 100.065) = 11.329, p<.001
PSEUDO-σ1-High vs. PSEUDO-σ1-Low	F(1.000, 47.000) = 5.544, p=.023	F(1.581, 74.326) = 5.012, p=.014	F(2.018, 94.829) = 2.134, p=.124

(d) HL+HL → L+HL (T4+T4 → T1+T4):

	Lexical-Frequency	Data-Point	Lex-Freq × Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = 28.639, p<.001	F(1.882, 88.436) = 463.167, p<.001	F(2.297, 107.977) = 1.126, p=.334
REAL-σ1-High vs. REAL-σ1-Low	F(1.000, 47.000) = 32.649, p<.001	F(1.797, 84.450) = 422.577, p<.001	F(2.400, 112.820) = 18.039, p<.001
PSEUDO-σ1-High vs. PSEUDO-σ1-Low	F(1.000, 47.000) = 4.466, p=.040	F(1.747, 82.118) = 422.568, p<.001	F(2.610, 122.674) = 8.742, p<.001

(e) LH+H → L+H (T3+T2 → T1+T2):

	Lexical-Frequency	Data-Point	Lex-Freq × Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = .979, p=.327	F(2.422, 113.837) = 34.946, p<.001	F(1.998, 93.898) = 6.001, p=.004
REAL-σ1-High vs. REAL-σ1-Low	F(1.000, 47.000) = 1.322, p=.256	F(2.121, 99.691) = 20.451, p<.001	F(1.777, 83.520) = 1.400, p=.252
PSEUDO-σ1-High vs. PSEUDO-σ1-Low	F(1.000, 47.000) = .042, p=.838	F(2.293, 107.764) = 15.148, p<.001	F(3.096, 145.496) = 4.306, p=.006

(f) LH+HL → L+HL (T3+T4 → T1+T4):

	Lexical-Frequency	Data-Point	Lex-Freq × Data-Point
REAL-Word-High vs. REAL-Word-Low	F(1.000, 47.000) = .428, p=.516	F(2.298, 107.996) = 20.234, p<.001	F(1.927, 90.572) = .565, p=.564
REAL-σ1-High vs. REAL-σ1-Low	F(1.000, 46.000) = .862, p=.358	F(2.242, 103.123) = 14.227, p<.001	F(2.371, 109.047) = .632, p=.559
PSEUDO-σ1-High vs. PSEUDO-σ1-Low	F(1.000, 46.000) = .489, p=.488	F(1.896, 77.751) = 18.572, p<.001	F(2.144, 87.918) = .568, p=.581