



Universiteit
Leiden
The Netherlands

Lexical tone in word activation

Yang, Q.

Citation

Yang, Q. (2024, May 16). *Lexical tone in word activation*. LOT dissertation series. LOT, Amsterdam. Retrieved from <https://hdl.handle.net/1887/3754022>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3754022>

Note: To cite this publication please use the final published version (if applicable).

Lexical Tone in Word Activation

Published by

LOT

Binnengasthuisstraat 9

1012 ZA Amsterdam

The Netherlands

phone: +31 20 525 2461

e-mail: lot@uva.nl

<http://www.lotschool.nl>

Cover illustration: 'Wave', by Matthew Sebastian & Qing Yang.

ISBN: 978-94-6093-453-7

DOI: <https://dx.medra.org/10.48273/LOT0668>

NUR: 616

Copyright © 2024: Qing Yang. All rights reserved.

Lexical Tone in Word Activation

Proefschrift

ter verkrijging van

de graad van doctor aan de Universiteit Leiden,

op gezag van rector magnificus prof.dr.ir. H. Bijl,

volgens besluit van het college voor promoties

te verdedigen op donderdag 16 mei 2024

klokke 11.15 uur

door

Qing Yang

geboren te Shangqiu, China

in 1993

Promotores: Prof. dr. Yiya Chen
Prof. dr. Niels O. Schiller (City University of Hong Kong)

Promotiecommissie: Prof. dr. Claartje Levelt
Prof. dr. Robert Hartsuiker (Ghent University)
Dr. Mirjam Broersma (Radboud University)
Dr. Maria del Carmen Parafita Couto

To My Grandpa

献给我的爷爷杨嘉运

Table of Contents

Acknowledgements	I
Chapter 1 General Introduction.....	1
1.1 The Role of Lexical Tone in Mandarin Spoken Word Recognition...	7
1.2 Tonal Interference in Bi-dialectal Spoken Word Recognition	9
1.3 The Role of Lexical Tone in Bilingual Spoken Word Production ...	11
1.4 The Effect of Lexical Tone on the Bilingual Mental Lexicon	12
Chapter 2 Phonological Competition in Mandarin Spoken Word Recognition	15
2.1 The Role of Segmental Syllable in Spoken Word Recognition	18
2.2 Relative Weighting of Sub-syllabic Constituents in Spoken Word Recognition.....	23
2.3 Segment and Lexical Tone Processing in Mandarin Spoken Word Recognition.....	26
2.4 Experiment 1	28
2.5 Experiment 2.....	39
2.6 Experiment 3.....	51
2.7 General Discussion	63
Chapter 3 Do bi-dialectal listeners activate both dialects during spoken word recognition?	71
3.1 Language Co-activation in Bilingual Word Recognition.....	74
3.2 Two Views of Bi-dialectalism.....	77
3.3 Method	81
3.3.5 Data Analysis	88
3.4 Results	90
3.4.2 Results of Xi'an Mandarin Spoken Word Recognition	97
3.5 General Discussion.....	103

Chapter 4 The Role of Lexical Tone in Bilingual Spoken Word Production..	111
4.1 Experiment 1 (Auditory Distractor and English Mode).....	121
4.2 Experiment 2 (Auditory Distractor and Mixed Mode).....	127
4.3 Experiment 3 (Visual Distractor and English Mode).....	129
4.4 Experiment 4 (Visual Distractor and English Mode).....	132
4.5 General Discussion.....	134
4.6 Conclusion.....	139
Chapter 5 Do Standard Chinese-English Bilinguals Produce English Words with Lexical Tone in their Minds?	141
5.1 Methodology	148
5.2 Results	151
5.3 General Discussion.....	154
Chapter 6 General Discussion	161
6.1 Chapter-by-chapter Summary	162
6.2 Theoretical Implications.....	167
6.3 Methodological Contributions	169
6.4 Limitations and Future Directions.....	171
Reference	173
Appendix A.....	195
Appendix B.....	199
Appendix C.....	201
Appendix D.....	205
Summary.....	207
Samenvatting.....	213
摘要	219
Curriculum vitae.....	223

Acknowledgements

The completion of this dissertation is indebted to the wonderful people who provided support and assistance throughout this journey. First and foremost, my deepest gratitude goes to my supervisor Prof. Yiya Chen. I thank Yiya for accepting me as a PhD student and for her unwavering belief in my capabilities. Her invaluable guidance not only shaped my research but also transformed me into an independent researcher. I extend my appreciation to my co-supervisor, Prof. Niels Schiller, for his continual encouragement throughout this academic journey.

I owe my special thanks to Prof. Wen Cao, who introduced me to the fascinating world of experimental linguistics and has been my mentor since. I am also indebted to Qian Li for her encouragement and assistance, which made my study at Leiden University possible in the first place.

Heartfelt thanks to my close friends and colleagues who provided support during the highs and lows at Leiden. Tingting Zheng, you have been my go-to person whenever I feel stuck. Thank you for your understanding and genuine care. Jiang Wu, I'm incredibly lucky to have you by my side since day one of my PhD journey. Thank you for sharing helpful tips on absolutely everything and showing me a new way of living. Hang Cheng, thank you for being my productive officemate and collaborator. You are the warmest person I have ever known; without you, my days in Leiden would not be half as bright. Han Hu, thank you for being my elder sister and running buddy at Leiden. Your laughter and positive energy are always delights to my heart.

I extend my gratitude to remarkable colleagues within and outside LUCL. To my outstanding groupmates Xinyi Wen, Hana Nurul Hasanah, Priscilla Lam, Yiran Ding, Charlie Xu, Xin Li, Matthew Sung, and Tingting Zheng - working with such brilliant minds has been an honour. Xinyi, thank you for proofreading my thesis and assisting me with my teaching responsibilities. Your presence and

II

support have provided me with comfort and strength. Hana, collaborating with you was a pleasure, and I've learned a great deal. Menghui Shi and Dan Yuan, thank you for your research suggestions and ongoing support. Qian Li, Min Liu, Ting Zou, Yang Yang, Junru Wu, and Yifei Bi, thank you for leading the way for me. Jinlei Zhou and Chen Ran, though our time as roommates and colleagues was brief, I miss you both so much. Zhuoyi Luo, Elisabeth Kerr, Zhen Li, Jiaqi Wang, Cesko Voeten, Sarah von Grebmer Zu Wolfsturn, Rasmus Puggaard-Rode, Andrew Wigman, Ami Okabe, Jin Wang, Ruixue Wu, Zhaole Yang and many other colleagues, thank you for the companionship and the engaging conversations we had during lunch and social events. Jos Pacilly, Ben Bonfi, Evelyn Bosma, Andreea Geambasu and Leticia Pablos Robles - your help in the eye-tracking lab is greatly appreciated, even during urgent and tricky requests. Special thanks to Andrew Wigman for being my native English speaker, and to Thom van Hugte for generously reviewing and proofreading my Nederlandse samenvatting.

I express gratitude to the anonymous reviewers of my submitted papers and the doctoral committee for this dissertation: Prof. dr. Claartje Levelt, Prof. dr. Robert Hartsuiker, Dr. Mirjam Broersma, and Dr. Maria del Carmen Parafita Couto.

Last but not least, my family - especially my mum, grandpa, and husband - deserves immeasurable thanks for their unconditional love and unwavering belief in me.

This dissertation was funded by the PhD scholarship from the Chinese Scholarship Council. I would also like to acknowledge the partial financial support from the Leiden University Centre for Linguistics.