

Singapore Management University

Institutional Knowledge at Singapore Management University

Research Collection School of Social Sciences

School of Social Sciences

11-2013

Does Bilingual Fluency Moderate the Disruption Effect of Cultural Cues on Second-Language Processing?

Sujin YANG

Catholic University of Korea

Hwajin YANG

Singapore Management University, hjyang@smu.edu.sg

Follow this and additional works at: https://ink.library.smu.edu.sg/sooss_research



Part of the [Multicultural Psychology Commons](#)

Citation

YANG, Sujin, & YANG, Hwajin.(2013). Does Bilingual Fluency Moderate the Disruption Effect of Cultural Cues on Second-Language Processing?. *Proceedings of the National Academy of Sciences of United States of America*, 110(47), E4403: 1-1.

Available at: https://ink.library.smu.edu.sg/sooss_research/1390

This Journal Article is brought to you for free and open access by the School of Social Sciences at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection School of Social Sciences by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email cherylids@smu.edu.sg.

Does bilingual fluency moderate the disruption effect of cultural cues on second-language processing?

Sujin Yang^a and Hwajin Yang^b

^aThe Catholic University of Korea, South Korea

^bSingapore Management University, Singapore

Zhang et al. (1) argued that cultural priming disrupts bilinguals' second-language (L2) processing because of interference from first-language (L1) structures that are activated by heritage-culture images. Although these findings are compelling, we have some concerns about the study.

First, the researchers measured English fluency by words spoken per minute after extraneous words (e.g., repetitions and self-corrections) were pruned. Despite the assumed effectiveness of this technique, speech rate analysis that focuses solely on temporal qualities cannot adequately capture the multi-faceted nature of fluency (2), which entails not only speed fluency (i.e., speech rate) but also breakdown fluency (e.g., mean length of pauses), and repair fluency (e.g., repetitions). Without considering pause times and other aspects of speech, slowed speech alone may not necessarily reflect other notable disruptions in language processing. This is especially true given that the researchers' method overlooked the quality of speech produced with regard to participants' lexical diversity or grammatical accuracy.

Second, the authors argued in Study 3 that faster recognition for literal-translation trials occurred because of the heightened accessibility of Chinese lexical structures. It should be noted, however, that there are alternative interpretations of this phenomenon. In general, faster recognition occurs because of various meta-memorial factors including but not limited to enhanced familiarity, greater confidence, and ease of recognition. Moreover, given that the literal-translation recognition task required, at its core, searching for Chinese compound names, reliance on L1 was not only necessary but also logical. Thus, fast response can be attributed to more adaptive and strategic responses that better meet the context of a specific speech act.

Third, the authors failed to consider that their Chinese-English bilingual participants' L2 proficiency could have potentially skewed the study's outcome. Since insufficient exposure to L2 increases L1 dependence, the recent immigrants who participated in the study with relatively low L2 proficiency should have been subject to greater L1 interference, especially when L1 representations were activated by cultural cues. In contrast, the literature

suggests that high L2 proficiency increases interference control (4), and that highly proficient bilinguals should be subject to less disruption in their L2 processing despite L1 interference.

Lastly, Zhang et al. contended in Study 4 that the increased use of literal translations throughout the object-naming task reflected a heightened accessibility to Chinese lexical structures, which affected their selection during English production. Their argument is based on the assumption that structures from L1 and L2 compete for selection, regardless of bilingual proficiency. The literature, however, suggests that highly proficient bilinguals are quite competent at selecting and producing words from only one of their lexicons despite the parallel activation of both languages (5). Therefore, it is possible that the intrusion of L1 lexical structures in the production of L2 could be specific to bilinguals with low proficiency, but not to those with high proficiency. Given the aforementioned concerns, it is warranted that the moderating role of language proficiency should be examined to elucidate the scope of this phenomenon and the true significance of Zhang et al.'s findings.

Author contribution: S. Y. and H. Y. wrote the paper and contributed to it equally. The authors declare no conflict of interest. Correspondence should be addressed to either sy98@cornell.edu or hjyang@smu.edu.sg

1. Zhang, S., Morris, M. W., Cheng, C.-Y., and Yap, A. J. (2013). Heritage-culture images disrupt immigrants' second-language processing through triggering first-language interference. *Proceedings of the National Academy of Sciences*, 110 (28), 11272-11277.
2. Tavakoli, P., & Skehan, P. (2005). Strategic planning, task structure, and performance testing. In R. Ellis (Ed.) *Planning and task performance in a second language* (pp. 239-273). Amsterdam: John Benjamin.
3. Chen, H. C., & Ho, C. (1986). Development of Stroop interference in Chinese-English bilinguals. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 12(3), 397-401.
4. Singh, N., & Mishra, R. K. (2013). Second language proficiency modulates conflict-monitoring in an oculomotor Stroop task: evidence from Hindi-English Bilinguals. *Frontiers in Psychology*, 4, 1-10.
5. Costa, A., & Santesteban, M. (2004). Lexical access in bilingual speech production: Evidence from language switching in highly proficient bilinguals and L2 learners. *Journal of Memory and Language*, 50(4), 491-511.