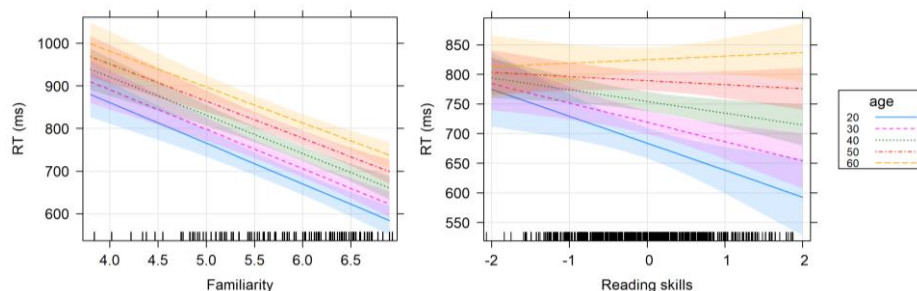


## ORAL PAPER PRESENTATION 7: OTHERS

### Effects of age and familiarity on visual word recognition in Korean: Evidence from a web-based large scale lexical decision task

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**Purpose** One of the most robust psycholinguistic phenomena is a word frequency effect, which refers to the tendency for more frequent and more familiar words (e.g., *life*) to be recognized more efficiently than less frequent and less familiar words (e.g., *dove*). However, the influence of aging on the word frequency effect is still under discussion (Cohen-Shikora & Balota, 2016; Gollan et al., 2008; Rayner et al., 2006). While most earlier studies aimed at European languages such as English or German, relatively little research has examined age effects in Korean word recognition. Moreover, a number of attempts have recently been made in behavioral sciences to collect data through web-based experiment platforms, which enables more efficient data collection (Aguasvivas et al., 2020). Thus, the present study investigated age differences in familiarity effects in Korean visual word recognition through a web-based large scale lexical decision task. **Method** A lexical decision task on 120 Korean words varying in frequency and 120 nonwords was built using PsychoPy3 and made available online at Pavlovia.org. Fifty-eight adult Korean speakers rated subjective familiarity of each word on a 7-point scale. Another group of 497 adult Korean speakers in their 20s to 60s participated in the lexical decision task using a URL that they received via email. They then took the Korean Author Recognition Test and the Comparative Reading Habits survey as a measure of reading skills. The effects of familiarity, age, and reading skills on lexical decision accuracy and latency were analyzed using mixed-effects regression models. **Results and Discussion** Overall, both lexical decision accuracy and RT increased with age. More familiar words were recognized more accurately ( $\beta=3.096$ ,  $z=8.208$ ,  $p<0.001$ ) and more rapidly ( $\beta=-0.101$ ,  $t=-8.34$ ,  $p<0.001$ ), which replicates the word frequency effect found in previous lab-based studies. Higher reading skills were associated with shorter RT ( $\beta=-0.146$ ,  $t=-3.184$ ,  $p=0.001$ ), and this effect was stronger among younger participants ( $\beta=0.002$ ,  $t=2.186$ ,  $p=0.029$ ). Crucially, there was a significant interaction between age and familiarity on accuracy ( $\beta=-0.501$ ,  $z=-5.3$ ,  $p<0.001$ ) and RT ( $\beta<0.001$ ,  $t=2.186$ ,  $p=0.029$ ), which was mainly driven by younger participants' noticeably less accurate and slower responses to low-familiarity words. This result is in the same vein as Gollan et al.'s (2008) results and supports the Lexical Quality Hypothesis (Perfetti & Hart, 2002), which posits that accumulated language experience improves the quality of lexical representations of words and that this learning effect is more prominent in low-frequency words than in high-frequency words due to a ceiling level in lexical quality. Finally, unlike in previous studies (Kuperman & Van Dyke, 2011), there was no significant interaction between familiarity and reading skills.



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