

Perspective Shifting in the Elicited Language Production Can Defy with Aging

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Abstract : As we age, many things become more difficult. Among the abilities are the linguistic and cognitive ones. Competing theories have shown that these two functions could diminish together or that one is selectively affected by the other. In other words, some proposes aging affects sentence production in the same way it affects sentence comprehension and other cognitive functions, while some argues it does not. To address this question, the current investigation is conducted into the critical aspect of sentences as well as cognitive abilities - the syntactic complexity and the number of perspective shifts being contained in the elicited production. Healthy non-pathological aging is often characterized by a cognitive and neural decline in a number of cognitive abilities. Although the language is assumed to be of the more stable domain, a variety of findings in the cognitive aging literature would suggest otherwise. Older adults often show deficits in language production and multiple aspects of comprehension. Nevertheless, while some age differences likely reflect cognitive decline, others might reflect changes in communicative goals, and some even display cognitive advantages. In the domain of language processing, research efforts have been made in tests that probed a variety of communicative abilities. In general, there exists a distinction: Comprehension seems to be selectively unaffected, while production does not. The current study raises a novel question and investigates whether aging affects the production of relative clauses (RCs) under the cognitive factor of perspective shifts. Based on Perspective Hypothesis (MacWhinney, 2000, 2005), our cognitive processes build upon a fundamental system of perspective-taking, and language provides a series of cues to facilitate the construction and shifting of perspectives. These cues include a wide variety of constructions, including RCs structures. In this regard, linguistic complexity can be determined by the number of perspective shifts, and the processing difficulties of RCs can be interpreted within the theory of perspective shifting. Two experiments were conducted to study language production under controlled conditions. In Experiment 1, older healthy participants were tested on standard measures of cognitive aging, including MMSE (Mini-Mental State Examination), ToMI-2 (a simplified Theory of Mind Inventory-2), and a perspective-shifting comprehension task programmed with E-Prime. The results were analyzed to examine if/how they are correlated with aging people's subsequent production data. In Experiment 2, the production profile of differing RCs, SRC vs. ORC, were collected with healthy aging participants who perform a picture elicitation task. Variable containing 0, 1, or 2 perspective shifts were juxtaposed respectively to the pictures and counterbalanced presented for elicitation. In parallel, a controlled group of young adults were recruited to examine the linguistic and cognitive abilities in question. The results lead us to the discussion whether aging affects RCs production in a manner determined by its semantic structure or the number of perspective shifts it contains or the status of participants' mental understanding. The major findings are: (1) Elders' production on Chinese RC types did not display intrinsic difficulty asymmetry. (2) RC types (the linguistic structural features) and the cognitive perspective shifts jointly play important roles in the elders' RC production. (3) The production of RC may defy the aging in the case of flexibly preserved cognitive ability.

Keywords : cognition aging, perspective hypothesis, perspective shift, relative clauses, sentence complexity

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