

Age-related differences in affective responses to Russian words: an intergenerational asymmetry in a perspective-taking slider task

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Emotional information receives priority in language processing. Neuroimaging studies show that emotional laden words activate the amygdala and prefrontal cortex more strongly than neutral ones [1]. Behavioral research demonstrates that affective word properties influence reading [2], lexical decision [3], and memory tasks [4]. Emotional processing can undergo transformations across the lifespan. According to Socioemotional Selectivity Theory [5], older adults shift toward emotional well-being because they perceive their time as increasingly limited. This produced a well-documented positivity effect [6,7]. Older adults also show better emotion regulation [8] and report less negative affect [9]. Despite this, most age-related research has focused on visual stimuli, while words remain understudied, particularly for Russian. Ziaei et al. [10] reported that cognitive empathy declines with age while affective empathy remains stable. The present study tested this using a perspective-changing slider task with Russian words. The study addressed three questions: 1) Whether older adults show higher positivity or more polarized valence ratings? 2) Whether participants change their strategies when adopting the opposite age perspective? 3) Which age group more accurately predicts the other's responses?

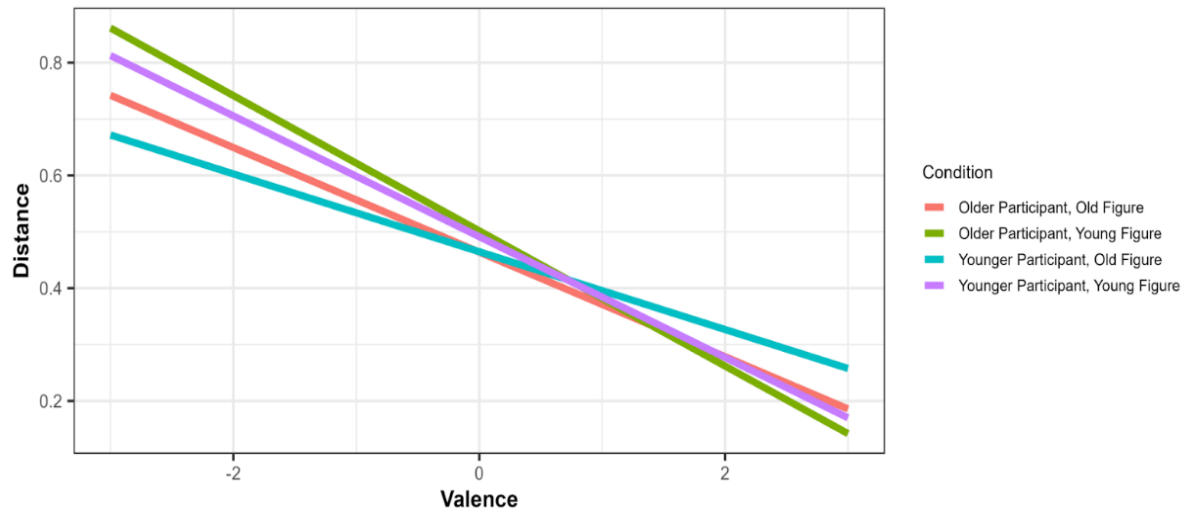
A total of 209 native Russian speakers participated (114 older, ≥ 45 years; 95 younger, < 45 ; 158 female). The stimulus set consisted of 120 Russian nouns selected from tonal dictionary ANEW [11] for maximal age-related divergence in valence and then translated into Russian. This was done due to the lack of tonal dictionaries for Russian that would contain affective ratings of different age groups, as well as due to the fact that cross-linguistic agreement for valence is high ($r \geq 0.88$; [12]).

The slider task [13] was used for collecting data. It was prepared in Experiment Builder (SR Research, Canada) at McMaster University. Participants moved a manikin to where the person would prefer to be relative to a word. Distance from manikin to the stimuli word correlates strongly with valence ratings ($r > 0.9$; [13, 14]). Each participant completed two blocks of 60 words: one with a manikin of their own age, and second with a manikin of the opposite age. The final dataset comprised 24,926 observations. A linear mixed-effects model was used: $\text{response} \sim 0 + \text{condition} + \text{condition:valence} + (1|\text{id}) + (1|\text{word})$.

The results revealed no positivity shift in older adults' responses. Own-perspective intercepts did not differ (older: 0.464; younger: 0.493, $p = 0.076$). Likewise, no polarization effect emerged. The valence slope for older adults responding from their own perspective was -0.095, while for younger adults it was -0.110, and this difference was not significant ($p = 0.112$). Both age groups adjusted their evaluative strategies when adopting the perspective of the opposite cohort. Older adults produced a steeper valence slope when responding with a young manikin -0.125 compared to when they responded with an old manikin -0.095, a significant difference ($p = 0.031$). Younger adults produced a shallower slope when responding with an old manikin -0.071 than with a young manikin -0.110, also a significant difference ($p = 0.012$). An asymmetry emerged in perspective-taking accuracy. Older adults overestimated the emotional reactivity of the younger cohort. Their predicted slope was -0.125 against the original -0.110 ($p < 0.001$). Younger adults underestimated the emotional reactivity of the older cohort. Their predicted slope was -0.071 against the actual -0.095 ($p < 0.001$). The absolute prediction error was smaller for older adults ($\Delta 0.015$ vs. $\Delta 0.024$), indicating that they were more accurate in approximating affective responses of the opposite age group.

Contrary to Ziaei et al. [10], older adults showed no decline in cognitive empathy. In fact, they were more accurate than younger adults in predicting opposite-age responses, while younger participants systematically underestimated older adults' emotional sensitivity. This asymmetry may reflect greater life experience or persistent stereotypes.

Figure 1. Position the person where you think he or she would prefer to be



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