Orthographic manipulations and word reading

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Reading proficiency improves with practice as intricate processes that support reading ultimately become automatic. The color-word Stroop, a popular measure of inhibition, is a task that relies heavily on reading proficiency. Research shows that orthographic manipulations (i.e., changing letter positions in a word) have an effect on the word’s readability. To investigate the degree of interference based on orthographic effects a computerized version of the color-word Stroop was created. In addition to the standard condition color-word (i.e., orange) letter positions: First/Last letter in place (e.g., onagre) and Scrambled (e.g., ragoen) was modified. A first study was conducted with a developmental sample that includes children (7-16 years) and adults (N=151). Results suggest that performance of both children and adults is hindered the most for incongruent conditions regardless of whether the word had a correct or incorrect spelling, however it was most facilitated only when the words were congruent with ink-color and spelling. To investigate whether this effect is observed in the Russian language, English-Russian adult bilinguals completed an English and Russian version of this task. Results show evidence in whole-word reading regardless of correct and incorrect spelling. These findings contribute to the understanding that of the relation among, inhibition, interference control, orthography and reading.

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