The current study uses eye-tracking to investigate the downstream consequences of difficult ambiguity resolution during natural reading in both young and older adults (60+). Noun/verb (NV) homographs (e.g., duck) and unambiguous words were embedded in semantically neutral but syntactically constraining contexts, followed by a prepositional phrase that was plausible for only one of the words' meanings. Using event-related potential measures with the same materials, Lee and Federmeier (2012) found a sustained frontal negativity in young adults, thought to reflect frontally-mediated meaning selection processes to homographs in these contexts. Additionally, they found plausibility effects on the head noun of the prepositional phrase following both word types, suggesting that the frontal negativity reflected successful meaning selection. In the current eye-tracking study, young, but not older adults, showed inflated first fixation durations to ambiguous relative to unambiguous words. This finding replicates our previous work showing increased first fixation durations in young, but not older, adults when readers must disambiguate NV homographs using only syntactic cues. Both age groups exhibited plausibility effects in the form of significantly increased reading times on the downstream noun in the implausible prepositional phrase. Furthermore, for both age groups in the ERPs and eye-tracking, the size of an individual's initial effect (first fixation or negativity) was positively correlated with the size of their plausibility effect, suggesting the magnitude of the initial effect may reflect the degree to which the meaning selection mechanisms have been successfully recruited, leading to larger plausibility effects downstream.

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