AGE DIFFERENCES IN THE EFFECTS OF INSTRUCTION ON RESOURCE ALLOCATION IN READING
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RATIONALE
Successful language performance is associated with strategic allocation of attentional resources (Stine-Morrow, Miller, & Hertzog, 2006), for example, conceptual integration at clause and sentence boundaries (wrap-up). Metacognitive controls, such as monitoring one’s memory of the current state of learning and allocating effort efficiently, can play a role in reading (e.g., Miles & Stine-Morrow, 2004). We investigated age differences in the accommodation of reading strategies and effects on self-regulated reading by providing training in conceptual integration

METHODS
Participants
Age Range
N
in monitoring (JOL) after reading each passage.
Day word presentation).
Day 2
Sentence B and to actively relate each new concept to ideas...pause momentarily in the middle of sentences...important to do this at the end of each sentence before going on to the next sentence...think about how the concepts are related.

Participants
were asked to read a series of short passages using a moving window method (word-by-word presentation).

Sentence Material
Stimulus Material
The sets of target sentences were equated in terms of word length, mean number of propositions, and syntactic complexity.
Nonsensible passages were created by mismatching sentence pairs for half of the passages in each set by using random assignment.

Sample Stimulus Passages
Sensible
Every morning housewives in Bali put some rice on small pieces of banana leaves to ward off spirits. The rice is considered to have magical properties.

Nonsensible
The atmosphere of Venus has temperatures similar to those of a self-cleaning oven and incinerates any foreign objects. During the day their speed is their best defense.

Recall
The Age X Condition X Day repeated measures ANOVA suggested that readers recalled a higher proportion of propositions on Day 2 than on Day 1, F(1, 142) = 34.42, p<.001, but none of the Age, Condition and Age x Condition effects reached significance.

Recall performance was measured using a series of short passages.

RESULTS
Regression analysis of word-by-word reading times was used to isolate the resources allocated to individual readers to intrastatement (ISB) and sentence (SB) boundary wrap-up while controlling for other demands (e.g., word length,familiarity).

Allocation to conceptual wrap-up was analyzed in a 3 (Age) X 2 (Condition) X 2 (Day) X 2 (Process: ISB, SB wrap-up) repeated measures ANOVA, which showed that age differences in the effects of instruction on resource allocation depended on the type of conceptual processes, F(2,146) = 4.32, p<.02, for the four-way interaction.

Younger adults exaggerated allocation to smaller intrastatement components with instruction.

Younger adults, in contrast, showed relatively greater allocation to conceptual integration at the sentence boundary.

Memory Monitoring
Participants were sensitive in monitoring their current state of learning across days, as indicated by gamma correlations between JOLs on Trial 2 and recall performance (Mf = 12, Mj = 14) that were significantly greater than zero (all p's < .001).

The change in gamma from Day 1 to Day 2 was compared in an Age X Condition ANOVA:

Younger readers differentially improved their monitoring accuracy when given instruction, but those of middle-aged and older adults were not affected by instruction, F(2,127) = 3.34, p<.05.

Older adults exaggerated allocation to conceptual integration at syntactic boundaries (Kornell, 2008). While younger adults differentially allocated time to larger constituents, older adults showed this accommodation at smaller intrastatement constituents, possibly as a way to compensate for age differences in capacity (Miller & Stine-Morrow, 1998).

Conceptual wrap-up was associated with recall performance, but more so for younger and middle-aged readers than for older readers, suggesting that older readers may be relatively less reliant on the textbase processing for effective text memory.

Older adults were less accurate in memory monitoring in text memory (Miles & Stine-Morrow, 2004).

CONCLUSIONS
Instruction for conceptual integration at syntactic boundaries enhanced conceptual processing differently for younger and older readers.

While younger adults differentially allocated time to larger constituents, older adults showed this accommodation at smaller intrastatement constituents, possibly as a way to compensate for age differences in capacity (Miller & Stine-Morrow, 1998).

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REFERENCES

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