Speech Planning in Younger and Older Adults
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Introduction
Speakers control their planning of speech. Preparing more delays the start of speech but increases fluency. According to several theories of speech monitoring, speakers only know that they are ready to say a word after they retrieve its pronunciation and hear it in inner speech (e.g., Levelt, 1983).

Word production becomes slower and less successful with increasing age (e.g., Burke, MacKay, Worthley, Wade, 1991; Kemper & Rash, 1988). Speakers may adjust their

Stimuli

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Low</th>
<th>High</th>
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<tbody>
<tr>
<td>Medium</td>
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- Shopping cart
- Grocery cart
- "cart"

- Frying pan
- "pan"
- "skillet"

96 picture objects (24 per cell)
- Object were HIGH or MEDIUM in codability (name agreement).
- Dominant object names were HIGH or LOW frequency.

The more names for an object, the longer speakers take to select one (Lachman, 1973). Words with frequently used phonological forms (e.g., both meanings of ball) are produced faster and are less prone to slips of the tongue (Dell, 1990; Jescheniak & Levelt, 1994). In isolated picture naming,

Task
Each speaker named objects in one of two sentence frames. Object names occurred EARLY in one frame and LATE in the other. In Block 1, speakers had 3.7 s to

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"The OBJECT was seen"
"They saw the OBJECT."
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Early Mention
Late Mention

Design
Between subjects
- Age: Young/Old: 24 college age; 20 adults over 60 yrs
- Mention: Early/Late

Within subjects
- Deadline: Long (3.7 s) / Short (2.7 s)

Predictions
The short deadline should encourage speakers to start speaking earlier so that they can complete their sentences in time. This should be hardest to do when objects are of medium codability. Therefore, predictions and results focus on medium codability objects named with a short deadline.

- Early Mention: Speakers should consistently prepare names before starting to speak to have names ready after "The." This preparation should be indicated by frequency effects in speech onset times.
- Late Mention: Speakers may vary how much they prepare names before starting to speak.
What was said and how

Younger and older speakers produced appropriate object names at a similar rate. Older speakers were slightly more likely to run out of time or say nothing at all.

Younger and older speakers were equally fluent overall. However, younger speakers were more fluent for high than low frequency names, whereas older speakers were equally fluent...

Summary

Overall, older speakers took 150 ms longer than younger ones to begin speaking and 199 ms longer to complete their sentences, but they produced similar content with similar fluency.

However, younger speakers began speaking without phonologically encoding object names when names were late in sentences and the deadline was short. Retrieving object names during speech shifted word frequency effects from onset to durations and led to more disfluencies for low frequency object names.

Older speakers phonologically encoded object names before restarting to speak in all conditions, regardless of sentence frame and deadline. Thus, frequency effects were limited to onsets times for them.

Interpretation

The different preparation patterns for younger and older speakers could be due to differences in capabilities, strategies, or both. Specifically, older speakers may have prepared more in advance because:

- They were less able to simultaneously speak and prepare words
- Or
- They try to maintain fluency by increasing the scope of word preparation.

References


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