RETEST LEARNING IN THE ABSENCE OF ITEM-SPECIFIC EFFECTS: THE YOUNG-OLD VS. THE OLDEST-OLD

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Introduction

Previous research suggests reserved cognitive plasticity in old age (see Hertzog et al., 2009). The cognitive performance improvement could occur even through self-guided retest practice (i.e., retest learning) (Baltes, Sowarka, & Kliegl, 1989). Our earlier study revealed substantial retest learning effects in both young old (i.e., in their 70s) and oldest old adults (i.e., in their 80s and over) (Yang, Krampe, & Baltes., 2006), but the effects could be driven by item-specific effects (i.e., due to remembering specific items or solutions) because the same tests were given across different sessions. A recent study revealed retest learning in the absence of item-specific effects in young old adults (Yang et al., 2009), but it is unclear whether the non-item-specific retest learning is still available to oldest old adults.

Research Questions

1. Do oldest old adults show retest learning in the absence of item-specific memorization and familiarity effects?
2. Do the young-old and the oldest-old differ in non-item-specific retest learning?

Method

Sample. The sample contained 30 young old (ages = 70.70, range = 60-79) and 21 oldest old (ages = 83.14, range = 80 - 89) adults.

Materials. To eliminate item-specific memorization and familiarity effects, we developed parallel versions for each of the tests listed in the table below. A new version was used at each training session. See Yang et al. (2009) for details on how the parallel versions were developed.

<table>
<thead>
<tr>
<th>Ability</th>
<th>Measure</th>
<th>Source</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive</td>
<td>Letter Series (LS)</td>
<td>Blieszner, Willis, &amp; Baltes, 1981</td>
<td>1, 3, 5, 7</td>
</tr>
<tr>
<td>Reasoning</td>
<td>Number Series (NS)</td>
<td></td>
<td>2, 4, 6, 8</td>
</tr>
<tr>
<td>Perceptual</td>
<td>Digit Symbol Substitution</td>
<td>Wechsler, 1981</td>
<td>1 - 8</td>
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<tr>
<td>Speed</td>
<td></td>
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</tbody>
</table>

Procedure. Participants went through a 10-session cognitive training course (1 pretest, 8 sessions of retest, and 1 posttest). We focus on the 8 retest sessions in this presentation. The retest sessions occurred twice a week. At each retest session, a different version of DS and LS or NS were completed in an unsupervised self-guided retest paradigm. The tests were integrated with lectures on general theories in psychology. No guidance on effective strategy use or feedback on performance was provided at all the sessions.

Results

Re-test learning can occur at a conceptual level in the absence of perceptual item-specific effects. This non-item-specific retest learning effect does not differ between the young-old and the oldest-old.

Conclusions

Key References


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