THE ROLE OF REDUCED WORKING MEMORY RESOURCES IN THE ASSOCIATIVE DEFICIT OF OLDER ADULTS

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ABSTRACT

The purpose of the present study is to investigate whether reduced working memory (WM) resources affect associative memory and whether such a reduction can account for older adults’ associative deficit. Three experiments investigated whether we can simulate an associative deficit in young adults by using secondary tasks that increase their WM loads (either via increasing storage or processing demands of the secondary task) during a primary task in which they learned name-face pairs and then remembered the names, the faces, and the name-face associations. Results show that reducing both the storage and the processing resources of WM each produced an associative deficit in young adults. However, further increasing the demands of the secondary task for WM processing resources gradually increased the size of the associative deficit, whereas increasing the demands of the secondary task for WM storage resources did not differentially affect associative memory performance. Furthermore, younger adults with low-WM span or low-online processing showed an associative deficit under full attention conditions compared to young adults with high-WM span or high-online processing. High-WM span/processing individuals also showed an associative deficit when the processing or storage demands on WM increased. In summary, the present studies showed that one possible reason older adults have an associative deficit is a reduction in their WM resources, especially those related to WM processing.