

## Aging and binding in short-term memory: Processes involved in conjunctive and relational binding

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In visual short-term binding memory tasks, some studies suggested that aging disrupts relational binding more than conjunctive binding, whereas others report an equivalent age effect in both types of binding. Yet, demands in attentional resources are potentially the greatest for relational short-term binding. In order to test the hypothesis that aging would affect preferentially tasks demanding in controlled processes, we assessed the contribution of controlled and automatic memory processes to relational and conjunctive short-term binding. Groups of young and older adults studied shape-color (Exp.1) or object-color (Exp.2) associations in a relational condition in which items were associated to color patches and a conjunctive condition where color was integrated into the item. Memory for associations was tested with a reconstruction task under inclusion and exclusion instructions (Process Dissociation Procedure). Both experiments showed that the retrieval of both relational and conjunctive associations relied primarily on controlled processes and that age-related differences were similar in the two conditions. This suggests that age differences in attentional resources may partly explain decreased short-term binding capacities.