

## Temporal Progression of Episodic Memory as Function of Encoding Condition and Age: Further Investigation of Action Memory in School-Aged Children

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**Abstract :** Studies of adults' episodic memory have found that enacted encoding not only improve recall performance but also retrieve faster during the recall period. The current study focused on exploring the temporal progression of different encoding conditions in younger and older school children. 204 students from two age group of 8 and 14 participated in this study. During the study phase, we studied action encoding in two forms; participants performed the phrases by themselves (SPT), and observed the performance of the experimenter (EPT), which were compared with verbal encoding; participants listened to verbal action phrases (VT). At test phase, we used immediate and delayed free recall tests. We observed significant differences in memory performance as function of age group, and encoding conditions in both immediate and delayed free recall tests. Moreover, temporal progression of recall was faster in older children when compared with younger ones. The interaction of age-group and encoding condition was only significant in delayed recall displaying that younger children performed better in EPT whereas older children outperformed in SPT. It was proposed that enactment effect in form of SPT enhances item-specific processing, whereas EPT improves relational information processing and this differential processes are responsible for the results achieved in younger and older children. The role of memory strategies and information processing methods in younger and older children were considered in this study. Moreover, the temporal progression of recall was faster in action encoding in the form of SPT and EPT compared with verbal encoding in both immediate and delayed free recall and size of enactment effect was constantly increased throughout the recall period. The results of the present study provide further evidence that the action memory is explained with an emphasis on the notion of information processing and strategic views. These results also reveal the temporal progression of recall as a new dimension of episodic memory in children.

**Keywords :** action memory, enactment effect, episodic memory, school-aged children, temporal progression

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