

Body Position Affects Access to Memories

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Autobiographical memories can be considered experiences that are stored in highly distributed memory traces, which include perceptual details that were part of the original experience. Retrieval of autobiographical memories has been conceptualized as a process in which the original experience is recreated through reactivation of the perceptuomotor representations that were formed during the experience (e.g., Damasio, 1989). In this study, we focus on the role of body position and body movement in facilitating the retrieval of autobiographical memories. If body position during reactivation of the memory is similar (congruent) to the original event, relevant perceptuomotor areas should become reactivated and prime other relevant components of the experience, hence facilitating retrieval of the original experience. In contrast, a body position that is incongruent with that of the original experience should impair retrieval.

We conducted an experiment to assess potential facilitation of congruent body posture on access to and retention of autobiographical memories in younger and older adults.

Thirty-two younger and 30 older adults participated in an experiment in which they retrieved autobiographical memories either in a body position that was congruent with the body position at the time of the original experience, or an incongruent body position. For example, if the event to be retrieved was a time the participant went to the dentist office, the congruent body position was a supine position in a recliner that was brought into a horizontal position. The incongruent body position was a standing position with hands placed on the hips.

Table 1 displays the mean response time of retrieving autobiographical memories in young and older adults.

Table 1: Mean RT and (SD) of autobiographical memories in young and older adults

	young	older
congruent	5.26 (2.49)	7.38 (3.87)
incongruent	7.44 (5.64)	8.77 (5.15)

The results showed that response times of retrieving the memory were shorter when body positions during retrieval of autobiographical events were similar to the body positions in the original events than when body position was incongruent. Free recall of the autobiographical events two weeks later was also better for body congruent than for body incongruent memories.

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