Studies of Working Memory

Baddeley et al (1975) visually presented participants lists of words to recall. The lists contained either short, one-syllable words (e.g. sum, hate), or longer multisyllable words (e.g. association, opportunity). Although the lists contained the same number of words, the PPs consistently recalled more of the short than the long words. However, if the articulatory control process was suppressed (1) recall got much worse and (2) the word-length effect disappeared.

Sebastian & Hernandez-Gil (2012) compared the working memory spans of Spanish children of different ages. The PPs were given increasingly long lists of digits to recall. The Spanish digits are uno, dos, tres, cuatro, cinco, seis, siete, ocho, nueve. The older the children, the longer their maximum digit span. When they compared the typical performance of English children, they found that the Spanish children had, on average, a shorter digit span than English children the same age.

Robbins et al (1996) gave chess players some problems to solve. The problems required the PPs to select the best move for a chess game in play. Chess is a game that requires both spatial processing and problem solving. They asked the PPs to do different things whilst they were solving the problems, and recorded how good their solutions were.

Concurrent task	*Quality of solutions to chess problems*
Tapping on the table.	No effect.
Thinking up random numbers and saying them aloud (a cognitively demanding task).	Got worse.
Pressing keys on a keypad to create a circular pattern (a spatial task)	Got worse.
Repeating the word 'see-saw' to themselves (a phonological task).	No effect.

Hunt (1980) gave PPs two tasks: (1) moving a lever with their hand (a *psychomotor task*); (2) a visual intelligence test involving reasoning about visual patterns. The tasks were performed alone or together. When they were done together, performance got worse on the psychomotor task. As the visual problems got harder, performance on the lever task deteriorated.