

Cognitive disability and reading disorders.

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The aim of the research was to study the interactions between reading disabilities and basic functions as attention, uditive and visual memory, phonological skills and mental imagery. Reading abilities were assessed, using MT test, in a wide sample composed of 524 pupils, age 9-11. Significant gender differences were found in the first phase of the research; girls were more competent in reading than males, and this result confirm previous epidemiological and neuropsychological evidence.

In the second phase of the research 200 subjects, 107 boys and 93 girls, were divided in two groups, 'good' and 'poor' readers, and both the groups were submitted to a pool of test including visuo-spatial and verbal memory, phonological competence, visual and uditive attention, and imagery. Testing of differences between groups showed that, among the boys, poor readers have lower performance in mentally representing letters, in visualization and memory of position, and in phonetic fusion; among the girls differences were significant in the mental subtraction task and in visual attention. In both sexes memory of words was lower in poor readers. A structural equation analysis (LISREL model) was performed; attention, visualization and memory were found more linked to the formal decoding of the text, whereas memory was more connected with comprehension.

The reading process is strongly influenced, differently for the semantic and deciphtrative components, by the effectiveness of the attentional, visuo-spatial and phonological abilities, and also by the capacity to generate and process mental images.

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