

Title : *Presemantic and semantic processing of digits in adults with developmental dyscalculia*

A core difficulty in developmental dyscalculia is the efficient processing of Arabic digits. This difficulty has been related to a semantic deficit affecting either the magnitude representation or its access from numerical symbols. But recent data have raised the hypothesis that the processing of Arabic digits is slowed down due to impaired digit visual recognition (i.e., recognizing a symbol as one of the digits, no matter its identity or numerical meaning). The present study aims to test whether the difficulty to process Arabic digits remains prevalent in adults with developmental dyscalculia and whether it is effectively associated with a digit visual recognition deficit. We compared adults with dyscalculia to age-matched controls in a *magnitude comparison* task that required to identify the largest of two digits, and in a *lexical decision* task that required to decide whether a visual stimulus is a digit or not. The results showed that participants with dyscalculia took more time than controls to perform the comparison task, whereas they were as fast and as accurate as controls in the digit lexical decision task. Overall, this finding indicates that developmental dyscalculia continues to affect the ability to process numerical magnitude in adulthood, and this cannot be explained by a visual recognition deficit for Arabic digits.