

**Neuropsychology Abstracts**

**Title:** REACTION TIME IN YOUNGER AND OLDER ADULTS WITH SPINA BIFIDA

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**Background:** Reaction time (RT) decreases steadily throughout childhood and adolescence (Kail, 1993), plateauing in early adulthood and steadily increasing thereafter (Deary & Der, 2005). The age-related increase in RT becomes more pronounced as tasks become increasingly demanding of cognitive resources (Myerson, Hale, Hirschman, Hansen, & Christiansen, 1989). We studied RT in adults with spina bifida meningocele (SBM) hypothesizing that they would have longer RTs than controls and would show an enhanced complexity effect, such that their differences with controls would increase with task complexity.

**Method:** Participants

63 individuals with SBM (38 young adults, aged 18-25; 25 older adults, over age 26) and 44 typically developing controls (19 young adults; 25 older adults).

Procedures

Simple RT – participants pressed a button in response to a downwards pointing arrow that appeared in the centre of the screen with a randomly varying interstimulus interval (ISI).

Choice RT – participants pressed one of two buttons to indicate the side of presentation of a downwards pointing arrow that appeared on the left or right side of the screen with an ISI of 750 ms.

Cognitive RT – participants pressed one of two buttons to indicate the direction of an upwards or downwards pointing arrow that appeared in the centre of the screen with an ISI of 750 ms.

**Results:** Across the three tasks, older adults in both groups had longer RTs, Wilks' Lambda (3, 102) = .87,  $p < .005$ , and individuals with SBM had longer RTs than controls, Wilks' Lambda (3, 102) = .74,  $p < .001$ . Group interacted with task difficulty, with larger group differences on more complex tasks, Wilks' Lambda (2, 103) = .94,  $p < .05$ .

**Conclusion:** As predicted, individuals with SBM are slower to respond than controls with differences increasing with RT task complexity.