

Developmental changes in sequential effects on speeded information processing: the crossover between automatic facilitation and subjective expectancy

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Age-related changes in sequential effects on choice reaction time (RT) were assessed. Sequential effects portray the influence of previous trials on the RT to the current stimulus. The patterns of sequential effects have been interpreted in terms of automatic facilitation (AF) for a short stimulus-response interval (RSI) and subjective expectancy (SE) for a long RSI. Previous studies demonstrated an age-related decrease in AF but not SE. The goal of the current study was to assess the hypothesis assuming that AF is stronger in children than adults because the time needed for AF to dissipate is longer. Six age groups (5-6, 7-9, 10-12, 13-14, 15-17, and 18-25 year-olds) performed on standard two-choice RT tasks with RSIs varied between trial blocks (50, 150, 200, 250, 500, and 1000 ms). Results demonstrated that as children mature the crossover from AF to SE shifts to shorter RSIs which provides strong support for the dissipation hypothesis.

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