



New Bulgarian University

**INTENSIVE PROGRAMME: SPECIAL ABILITIES AND TALENTS - PATTERNS
OF COGNITIVE PROCESSES IN PEOPLE WITH DISABILITIES**

Abstract

Effect of Distractors and Crowding on Attention Modulation in Adults with Dyslexia

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Rizan Cassim, from Aston University presented a synopsis of his recent studies looking at aspects of visual attention modulation in adults with dyslexia (AwDys). The current set of studies investigated probable deficits associated with both attentional processes (signal enhancement and noise exclusion) and the extent of crowding on stimulus discrimination ability. AwDys and controls discriminated the orientation of a target in an array of different numbers of and differently spaced vertically orientated distractors to rapidly presented displays. The first experiment showed that AwDys: (i) had decreased performance when distractors were placed closer together and (ii) successfully utilised the target pre-cues to infer attention (vs. post-cues and no cues) to enhance the target signal, no matter how crowded together the stimuli were. The second experiment showed a robust effect of (i) crowding with just two distractors and (ii) the impact of increased numbers of distractors despite knowing the target locations. A greater dependence on pre-cues, larger effects of crowding and the impact of increased numbers of distractors all correlated significantly with measures of literacy. These findings extend previous studies of visual crowding of letters and support the proposal that AwDys have difficulty excluding distracting stimuli.

Key Words: Dyslexia, Attention Modulation, Crowding, Orientation, Signal Enhancement

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