

Is higher susceptibility to attentional deficits in children related to lower susceptibility to Inattentive Blindness in visual search

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When attention is occupied with one task, an observer may fail to notice a different otherwise salient, unexpected event. This is known as Inattentive Blindness (IB). IB is modulated by individual differences in intelligence, age, or expertise. Here we show, for the first time to our knowledge, that IB is modulated by susceptibility to AD/HD during childhood. A sample of 194 children between 4-10 years old searched for child-friendly, photorealistic images among distractors in a visual search task. An unexpected letter (N) or word (COLOR) appeared in two separate trials during the task. The results show that the IB effect was bigger in younger children, especially for the youngest 4-5 year-olds, who had not been previously tested in an IB task. For the letter condition, there was a marginally significant modulation of IB with AD/HD susceptibility for children between 6-10 years old: Children with moderate to high attentional deficit (AD/HD, n=32) levels, as measured by the Conners & Kiddie Continuous Performance Tests (K-CPT & CPT), showed marginally lower levels of IB (Percentage of IBAD/HDprone=53; Percentage of IBNO_AD/HDprone=70; p=.08). Errors were significantly larger for the AD/HD prone group only when IQ was medium-low (p=.04), while RTs for the IB trials were similar across IQ and AD/HD prone groups. For the word condition the trend was similar, although the effects may have been masked by age, as there is a strong IB decrease from about 7-9 years old. This might be explained by the rapid development of reading skills around those ages; perhaps making words more salient than they are for younger children or adults. Important implications can be derived from these results: IB is a potentially valuable paradigm with which to study attentional development in children. Importantly, it could help us to develop new techniques for cognitive interventions with children.

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