

# Understanding 'attention deficit' in dyslexics could help improve reading

July 3 2014, by Andy Dunne

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A new study into 'attention deficits' in adults with dyslexia could help develop new techniques for reading and writing.

(Medical Xpress)—A new study from researchers in our Department of Psychology has revealed that understanding attention deficits in adults with dyslexia may help develop new techniques for reading and writing.

Dyslexia is well known as a condition that impacts on visual language processing, but recently a number of studies have discovered that it is accompanied by deficits in [attention](#) and perception.

As part of the study, just published online via the journal *Neurocase*, researchers monitored how adults with and without dyslexia responded to an 'interference test'. Their results revealed large differences in terms of [attention deficits](#) for adults with dyslexia.

Through the interference task, participants are asked to name the colour of letters but ignore the word. For most people this is difficult when the word 'RED' is printed in blue ink: the meaning of the word interferes with a person's ability to say the word 'BLUE'.

Lead author of the new paper, Dr Michael Proulx, explained: "Our results suggest a special type of attention – object based attention – might be a fundamental problem in dyslexia.

"We are now looking to team-up with a tech company to develop ways to make written electronic information easier for people with dyslexia to read and process. Brain games using the interference test might be one way to teach people to focus on the right information, which could make reading easier."

A prior study found that children with [dyslexia](#) experienced greater interference with what the word was, even when they were supposed to ignore the word.

Through the study at Bath, the researchers also introduced a new way to test interference by trying to reduce the influence of the 'distracting word': the test assesses distraction by asking participants to just report the colour of the ink, not the word. Surprisingly, even with difficulties in reading, the dyslexic brain is still compelled to read the irrelevant word even though it should be ignored.

To reduce distraction the researchers separated the colour from the word using two different objects. The colour was one object – a rectangle – and the word was printed in black ink upon it. Although the word within this could be completely ignored as its letters were not in the colour that needed to be reported, adult dyslexics still experienced interference at a higher level than non-dyslexic adults.

**More information:** "Stroop interference in adults with dyslexia."  
Proulx MJ, Elmasry HM. *Neurocase*. 2014. May 12:1-5. [Epub ahead of print]. [www.ncbi.nlm.nih.gov/pubmed/24814960](http://www.ncbi.nlm.nih.gov/pubmed/24814960)

Provided by University of Bath

Citation: Understanding 'attention deficit' in dyslexics could help improve reading (2014, July 3)  
retrieved 6 May 2024 from  
<https://medicalxpress.com/news/2014-07-attention-deficit-dyslexics.html>

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