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Dyslexic adults have more trouble if background noise levels are high

November 23 2011

Dyslexia affects up to 17.5% of the population, but its cause remains somewhat unknown. A report published in the Nov. 23 issue of the online journal *PLoS ONE* supports the hypothesis that the symptoms of dyslexia, including difficulties in reading, are at least partly due to difficulty excluding excess background information like noise.

In the study of 37 undergraduate students, the researchers, led by Rachel Beattie of the University of Southern California, found that the poor readers performed significantly worse than the control group only when there were high levels of background noise.

The two groups performed comparably at the prescribed task when there was no background noise and when the stimulus set size was varied, either a large or a small set size.

According to Dr. Beattie, "these findings support a relatively new theory, namely that dyslexic individuals do not completely filter out irrelevant information when attending to letters and sounds. This external noise exclusion deficit could lead to the creation of inaccurate representations of words and phonemes and ultimately, to the characteristic reading and phonological awareness impairments observed in dyslexia."

More information: Beattie RL, Lu Z-L, Manis FR (2011) Dyslexic Adults Can Learn from Repeated Stimulus Presentation but Have Difficulties in Excluding External Noise. PLoS ONE 6(11): e27893. doi:10.1371/journal.pone.0027893