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ACTION VIDEO GAMES IMPROVE READING ABILITIES ALSO IN ENGLISH-SPEAKING CHILDREN

By playing specific video games, reading speed is improved also in English-speaking children, as a consequence of visual attention and verbal memory enhancements.

This emerges in a study by a team of young researchers just published in the prestigious journal «Scientific Reports».

The team is led by Professor **Simone Gori** (Department of Human and Social Science, University of Bergamo) and Professor **Andrea Facoetti** (Developmental and Cognitive Neuroscience Lab, Department of General Psychology, University of Padua,) and is composed by Dr. Sandro Franceschini (University of Padua), Dr. Piergiorgio Trevisan (University of Udine), Dr. Luca Ronconi (University of Trento), Dr. Sara Bertoni (University of Padua), Dr. Kit Double and Professor Susan Colmar (University of Sydney, Australia).



Dyslexia is a specific impairment in the acquisition of reading and spelling abilities, despite normal intelligence and educational resources. It affects about 5% (one out of twenty) of Italian children and about 15% (three out of twenty) of English children. It is a serious

threat for the health service and public education, not to mention the children themselves and their families. Treatments generally reduce reading errors, however reading speed tend to remain slow, also for university students.



As Prof. Gori and Prof. Facoetti explain, the deep orthography in the English language makes it more difficult to apply the conversion rules between letter and sounds, therefore learning



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to read is harder in English than it is in Italian. In 2013 («Current Biology» 2013) the Padua team discovered that some types of video games improve reading speed in simple orthographies like Italian. The present study has demonstrated that those same video games also improve reading abilities in English speaking children with dyslexia.

In this study, carried out in Australia by Franceschini and Trevisan, the researchers have discovered that the reading improvements induced by few hours of action video-game playing are due to specific neural stimulations which enhance both visual attention and memory of speech sounds.

Surprisingly, this memory type – the same one which makes us recall a phone number just communicated to us – has not been trained directly by the video games, which do not involve any type of language training. The researchers suggest that the main cause for this is a reduction in neural costs when attention is moved from a visual cue (a letter) to the correspondent speech sound, which is a crucial process in learning to read.

These findings are important as they shed significant light on issues raised by some scientists, who believed video games could only be useful for visual dyslexia but not for more common language-based dyslexia.

Therefore, this discovery could drastically change the scenario in present dyslexia remediation programs: by demonstrating that action video games can improve language difficulties typical of children and adults with dyslexia, the researchers have identified a powerful and enjoyable resource which can help dealing with the widest neurodevelopmental disorder in the world.

