

***Processing speed training in children and adolescents***

Research findings for parents/carers

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As part of a Doctorate in Clinical Psychology at the University of Exeter, Lee Gamman completed a research study that looked at how quickly our brains help us to process and use information. This is known as processing speed. This study has now come to an end and the following information sheet will provide you with a brief summary of the findings.

I would like to take this opportunity to thank yourself and your child/teenager for taking part in this study and contributing to the research.

**What was the study about?**

Processing speed is linked to our thinking abilities (such as problem solving and memory), and how well we do at school. Children with slower processing speed can find it harder to follow conversations, television programmes and complete home/school tasks.

Recently, studies have shown that processing speed can be improved in some children by playing certain games such as card games, computer games and board games. This research looked at whether playing these games can help children with a medical condition improve their processing speed.

**What did the study do?**

Children/teenagers were asked to complete paper and pencil tasks that looked at processing speed to see if they had difficulties with processing speed. If a child/teenager was found to have processing speed difficulties they were invited to take part in the study. The study recruited three children/teenagers between the ages of 6 and 16 years old, who had difficulties with processing speed.

The children/teenagers recruited, were asked to complete a short computer task, three times a week for 10 weeks. They were then asked to take part in a processing speed intervention that lasted for a minimum of eight weeks. The intervention was started at different times for each child/teenager and the amount of time completing the intervention differed for each child/teenager.

The processing speed intervention involved playing a number of games (iPad/Android game, board games and card games), at least 4 times a week for 30 minutes. Once the intervention had finished, the paper and pencil tasks that measure processing speed were repeated.

**What did the study find?**

Overall, the study found that that there was no significant improvement on the computer task as a result of the intervention for most individuals who took part; although two children/teenagers did show some promising change on the task.

The study also found that there were no significant improvements between the paper and pencil processing speed measures completed before and after the processing speed intervention. However, based on parent/carer reports on a questionnaire, there was evidence of improvement on overall fatigue and cognitive (thinking abilities) fatigue.

**What does this mean?**

Overall, the findings of the study suggest that the processing speed intervention did not improve processing speed abilities in children/teenagers with medical conditions; however there was some evidence that it may benefit fatigue levels.

The results were interesting and helpful as they have given us some ideas on how we can adapt the intervention and hopefully make it more effective.

**What happens now that the study has stopped?**

Now that the study has ended you will not receive any further contact from Lee Gamman or the university. If you have any questions about the findings, please contact Lee Gamman ([lg439@exeter.ac.uk](mailto:lg439@exeter.ac.uk)) or Jenny Limond (j.limond@exeter.ac.uk).

**We would like to thank you and your child/teenager once again for taking part in this research study.**