DO VIDEO GAMES MAKE OUR ABILITY TO READ WORSE?

WRITTEN BY
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Susan Greenfield

Despite the possible improvements in a selective (short-term) attention, gamers may have a problem with sustained (long-period) attention.

VS.

The latest researches and my own experience show that video games don't have palpable negative effects on both short-term and long-term reading skills.

SUSTAINED ATTENTION

Ability to maintain vigilance over longer periods of time. It is often required during a tedious activity.

VIDEO GAMES DON'T HAVE PALPABLE NEGATIVE EFFECTS ON SOME OF THE SUSTAINED ATTENTION REQUIRING ACTIVITIES (READING, AS EXAMPLE), SO THEIR EFFECT ON THE SUSTAINED ATTENTION NEEDS TO BE EXAMINED MORE CLOSELY.

FIRST EXPERIMENT – GENTILE, SWING ET AL.

SINGAPORE

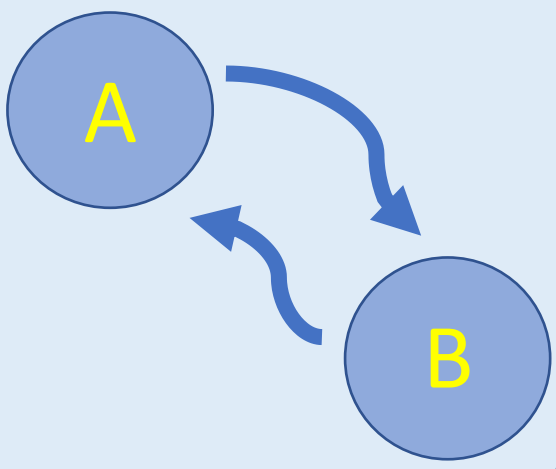
> 3000 CHILDREN

BASED ON A SELF-ASSESSMENT

THERE IS A BIDIRECTIONAL CAUSALITY BETWEEN PLAYING VIDEO GAMES AND ATTENTION PROBLEMS

Douglas A. Gentile and his colleagues (Swing, Lim and Khoo) examined over 3 thousand children and adolescents in Singapore by asking them to assess their behavior with/without playing video games. As a result, they suggested bidirectional causality between playing video games and attention problems, which means that video games do cause attention problems. One of the possible mechanisms that Greenfield suggests for an explanation of the negative impact is based on a brain's ability to adapt. When you constantly stay in an action gaming environment, which requires you to react fast and switch fast to another target, your brain adapts and expects the same environment in the real life, decreasing your long-term concentration abilities in favor of short-term focus.

BIDIRECTIONAL CAUSALITY



SECOND EXPERIMENT – FRANCESCHINI, TREVISAN ET AL.

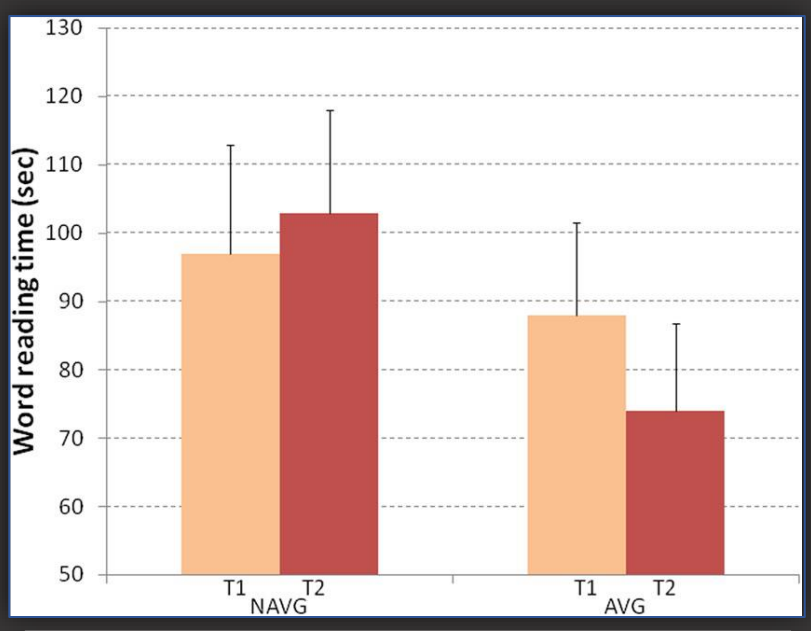
ITALY

28
CHILDREN WITH DYSLEXIA

LETTERS AND SEQUENCES OF LETTERS RECOGNITION

ACTION VIDEO GAMES IMPROVE READING SKILLS OF CHILDREN WITH DYSLEXIA

Reading is perceived as an activity that requires concentration over a long period, so it should require mostly the sustained attention. So, taking into account Gentile's research, you can suggest that video games may cause problems with children's reading skills too. However, Sandro Franceschini and his colleagues had discovered that action video games improve reading abilities of children with dyslexia. For the experiment, they took 28 dyslexic children and found the significant difference between those kids who played AVG (action video games) and those who didn't.



NAVG – Kids who didn't play Action Video Games
AVG – Kids who played Action Video Games

THIRD EXPERIMENT – ANTZAKA, LALLIER, MEYER ET AL.

FRANCE

38
ADULTS (WITHOUT DYSLEXIA)

PSEUDO-WORDS READING

ACTION VIDEO GAMES IMPROVE READING SKILLS OF ALL PEOPLE

In 3 months after Franceschini's paper was published, Alexia Antzaka (together with Lallier, Meyer et al.) studied an impact of AVG not only on kids with dyslexia but on all people. Their experiment, which was done with 38 normal adults (without dyslexia), also showed the attentional benefits of playing AVGs to reading.

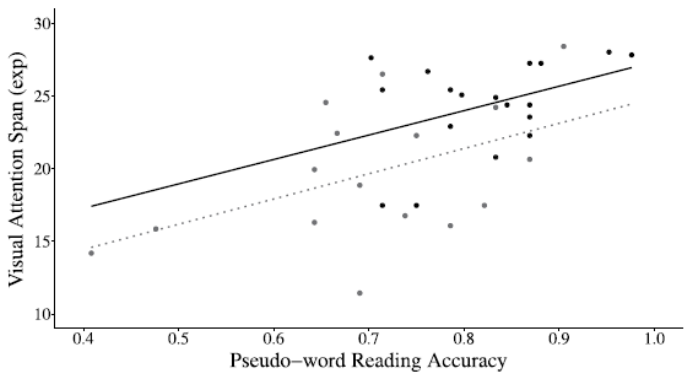


Figure 3. Correlations between a composite measure of VA span and pseudo-word reading accuracy for the AVG players (——) and non-players (▪▪▪▪▪).

BOTH EXPERIMENTS SHOWED THAT PLAYING ACTION VIDEO GAMES (AVGs) INCREASES PEOPLE'S READING SPEED WITHOUT LOSS OF READING ACCURACY.

SO, HOW DOES IT WORK?

BETTER VISUO-SPATIAL AND VISUO-MOTOR SKILLS

↓

FASTER LETTER AND WORD RECOGNITION

↓

FASTER READING

So, how video games can improve reading skills? Researchers suggested that it is connected with enhanced visuo-spatial attention. As example, gamers can see more letters at a time, so they can spend less time converting letters into words. Also, they can read the next word faster because AVGs taught them how to better process two or more objects simultaneously. In her book, Greenfield mentioned visuo-spatial and visuo-motor skills improvement, but now we see that these selective (short-term) attention improvements can also have positive effects on sustained attention activities like reading. But these experiments mostly tested the abilities of people to read during a short period of time. Tasks included fast (less than 100 ms) letter recognition, sequence of letters recognition and pseudo-word recognition. But in real life reading is a bit different process.

WHAT IF VIDEO GAMES DO HAVE A NEGATIVE IMPACT

NOT ON THE READING SPEED OR READING ACCURACY, BUT ON THE TIME WHICH PEOPLE CAN SPEND READING WITHOUT BEING BORED OR DISTRACTED BY SOMETHING?

MY SMALL EXPERIMENT

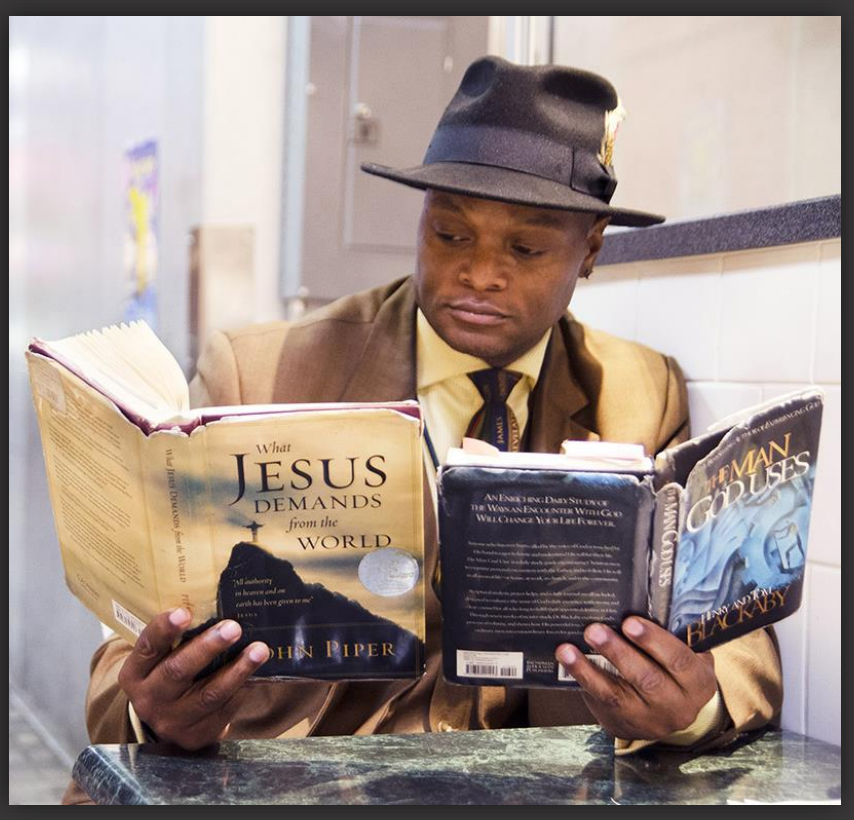
RUSSIA

ME

HYPER- AND DEEP-READING EXPERIENCE

VIDEO GAMES DON'T HAVE A NEGATIVE IMPACT ON DEEP READING (LONG-PERIOD + IMMERSED)

Unfortunately, I don't have 38 French right-handed adults to conduct a real scientific experiment, but I have my own experience that allowed me to conduct a small one. Until I was 11, I barely played video games but read books often. Then, in my middle school I was playing video games (including AVGs, such as Counter-Strike, Borderlands etc.) a lot. So, according to Susan Greenfield, my brain should've adapted from reading to fast-changing environments, and my ability to concentrate on a book could have become worse. To check this hypothesis, I made a small experiment. Firstly, I was looking over scientific articles using so-called "hyper-reading" for 30 minutes and then read a book for an hour, counting how many times I would get distracted. Using this experiment, I discovered that my deep-reading abilities didn't significantly deteriorate.



READING EXPERIENCE CHANGES – AND IT IS NORMAL

The reading experience changes with the development of computer technologies and video games in particular, but changes are not always a bad thing. As example, one of the popular video game genres now is a visual novel. It's a kind of a book, in which you have a choice of character's actions and speeches. So, playing visual novel commits you to read a lot and for sure can't have a negative effect on your reading skills. Even in "most hated" by researchers (because of the addictiveness) MMORPGs you need to read lots of things from your quest tasks to the loot descriptions. So, it would be incorrect to completely distinguish between video games and reading.

PLAYING VIDEO GAMES INVOLVES A LOT OF READING PROCESS, SO IT WOULD BE INCORRECT TO DISTINGUISH BETWEEN VIDEO GAMES AND READING

NEW FRONTIERS FOR RESEARCHES

The idea that improvement in one area doesn't have to be necessary compensated by a deterioration in other area was mentioned by Robert W. Clowes as a "Massive Redeployment Hypothesis" (Clowes 5). So, it can be true that video games have a positive impact on a selective attention without having a negative impact on sustained attention. Then, it won't be unnatural if we decide that video games are beneficial for both children and adult's reading abilities. But reading is only one of many activities that require sustained attention, so we shouldn't completely throw away Greenfield's claim. Some of the skills may get worse, some may get better, and it's too early to take tech-pessimistic side as Greenfield does, but it's important to analyze such claims in order to not miss something crucial.

GREENFIELD'S CLAIM DOESN'T SEEM TO BE TRUE IN SOME RESPECTS.

BUT WE SHOULDN'T THROW AWAY TECH-PESSIMISTIC CLAIMS TO NOT MISS SOMETHING CRUCIAL.

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