

# Violent video games make children more violent

## The cause for concern

There is concern among parents, teachers, and society at large, that children who play violent video games, particularly for extended periods of time, might then engage in violent behaviour, or even copy acts of violence experienced during game play. Research to address these concerns is important given that 97% of American teens play video games[i] and children report that they prefer violent to non-violent games[ii], so it's unsurprising that there's plenty of studies that look at this issue.

## What questions should be asked?

Researchers need to distinguish correlation from cause. For example, it might be that individuals with greater levels of pre-existing aggression prefer to play more aggressive video games, in which case a correlation would not suggest that the games caused the aggression. By contrast, exposure to aggressive games may be the cause of more aggressive behaviour. Evidence in support of this second possibility would need to use two matched groups, one exposed to the aggressive games, another exposed to some similarly arousing / engaging but not aggressive activity. An increase in aggression should be observed only in the later behaviour of the aggressive game group. Even here, we need to ask, what behaviour will be measured, and how much later should we expect to see the effects – half an hour? The following week?

## What's the evidence?

Not all studies have found a relationship[iii] between exposure to violent

video games and aggression in children. However, the vast majority of work does show a relationship. In a recent meta-analysis of 98 studies, involving 36,965 participants, violent video games were convincingly shown to influence social behaviour[iv]. The fact that studies have taken a variety of forms strengthens the certainty of the relationship.

Some work looks at the causal effect of game play by asking some individuals to play violent games in the lab, while others play non-violent games, then measuring the behaviour of each group in social tasks afterwards. These studies have shown that playing violent games results in immediate changes to behaviour[v]. For example, after playing violent games participants are more likely to 'punish' unseen opponents in a task with loud noise bursts, compared to peers who had played a non-violent video game. Young adults also show physiological desensitisation, as measured by less of an increase in heart rate and skin conductance, to scenes of real life violence[vi]. Individuals who had played violent, compared with non-violent, games were also less likely to report hearing a fight staged outside the laboratory, judged the fight as less serious, and were slower to respond when they offered help[vii]. More recently, after violent video game play, children have been shown to be more likely to handle real, disabled hand guns and pull the trigger more often during play[viii].

Other studies have considered longitudinal effects, where individuals have been followed over time and video game play at point A has been related to aggression at later point B, both in the lab and also in real life; the more violent play individuals engaged in, the steeper the increase in aggressive behaviour[ix]. The size of the effects found in most studies is small to medium, but pretty consistent, even with children's levels of aggression at the start of the study taken into account [x].

As a body of work this indicates that violent games do influence behaviour, rather than just indicating that violent children engage in video

games. Exactly how violent game play and later violent tendencies are linked is not really clear. One possibility is that children become desensitised to violence when they're exposed to violence during game play[xi]. Another possibility is that it's not the violence of game play that's the problem as such, but rather the element of competition that leads to violent feelings afterwards, especially in those who lost the competition during game play [xii]. Indeed, competitive game play in children is associated with decreases in pro-social behaviour over time [xiii].

It's also important to acknowledge however, that although playing violent games does predict both short-term and long-term aggressive behaviour, other factors such as being male and living in poverty have a greater impact on these outcomes[xiv]. It's been suggested that these other effects dwarf the influence of video game play, making it inconsequential [xv].

## **The effects vary across individuals**

The effects of violent games don't seem to be equal for everyone, however. Short-term effects in the laboratory are found to be larger for undergraduate men than women[xvi], and younger children are more likely to be affected by violent games if they have a high score on the personality trait 'neuroticism' and a low score on the traits 'agreeableness' and 'conscientiousness'[xvii]. In terms of the game, playing with a personalised avatar has been found to result in more arousal and more aggressive behaviour than when playing with a generic character[xviii].

## **The good news**

The good news is that pro-social games, where the main aim is to help someone else, have a positive effect on behaviour[xix] to the same extent that violent games have a negative effect. One study asked different groups of participants to play the same game (Halo II) but gave them

different objectives, with either co-operative or competitive play scenarios. The authors found increased pro-social behaviours only in those playing co-operatively, suggesting that context rather than content might be important[xx]. So the power of video games is potentially beneficial for social development, and it's even been suggested that pro-social game play in children could be used to prospectively reduce domestic violence when those children grow up [xi]. Playing action video games has also been used to enhance visual attention and results in faster reaction times[xxii] (see '[You can train your brain with digital media](#)' for more on this).

## Outstanding questions

There are still notable questions that have not been adequately considered. Firstly, is there a real-life impact of violent game play on violent crime? The rise seen in video game play over recent decades has not been accompanied by a rise in youth crime rates, and in fact violent crime in youth has fallen over this period. However, there are so many factors that influence crime rates that it would be difficult to pinpoint the effects of any given one, and the little research that has been done suggests that violent game play is not related to self-reported bullying behaviour [xxiii]. Another major question is whether the same games have a greater impact on the behaviour of younger than older children. How important is it that parents obey the ratings on games? For example, is Call of Duty likely to have more of an effect on 14 year olds than on the 18 year olds for whom it is intended? There is currently some evidence that younger children are more effected by violent games than are older children[xxiv], but this is a sorely neglected area of research at the moment.

## Take the rough with the smooth

Although the link is still debated, and certainly other factors have a bigger

influence on aggression, the impact of video games on the behaviour of children and young adults is undeniable both in the short-term and the long-term. Strikingly, one group have noted that the relationship between exposure to violent media and aggressive behaviour is as high as the link between exposure to lead and IQ scores in children[xxv].

The potency of video games is an important issue for society, partly because their effects can be negative, but also partly because they can, and could be, positive; indeed it would be difficult to argue for one of these positions without the other. What's vital is that we understand what aspects of games or game play behaviour have an impact, and on whom. The verdict? Although not everyone agrees, the evidence comes down on the side of neuro-hit.

## Further resources

For a summary by one of the key researchers in this field see: [Media Violence effects on Children, Adolescents, and Young Adults by Craig Anderson](#).

For a range of expert opinions see: [Bavelier, D., Green, C. S., Han, D. H., Renshaw, P. F., Merzenich, M. M., & Gentile, D. A. \(2011\). Brains on video games. \*Nature Reviews Neuroscience\*, 12, 763-768.](#)

The Dana Foundation have an excellent and more in-depth [blog](#) on this topic.

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