

Fortnite: The Dopamine-Induced Craze

If you've been around children, teens, or young adults since the fall of 2017, you are probably tired of hearing about the video game Fortnite (unless of course, you are one of the many parents who are joining in on the fun). It is estimated that 125 million people play Fortnite, which was developed and released by Epic Games and ranks as the most popular game in the world. So, what is behind the appeal of this worldwide craze?

First, you need to understand the brain basis for the game's appeal. The neurotransmitter dopamine is a major player for the brain's attention system and pleasure system. When humans do something pleasurable (like playing a fun game), dopamine activates the pleasure system, increasing our feelings of satisfaction and fueling our desire to continue the activity (for those of you who love chocolate, think about the craving for a second piece). The increase in dopamine is also seen in the frontal lobe (the area of the brain that regulates functions such as attention, time management, and emotional control). As the levels of dopamine increase, the brain starts to enter a "zone" of hyper-focus aimed at the task at hand. Focusing on one thing (single-mindedness) like meditation, music, sports, or gaming is great for performance and even helps us relax. In fact, 20 minutes of electronic gaming can be a great way to relax.

However, when electronic gaming continues for longer periods of time, higher levels of dopamine quickly switch off the brain's time-management function (the brain gets locked into the activity and loses track of time, which results in multiple hours of play deep into the night). The higher levels of dopamine also increase emotional reactivity (excitement as well as frustration), and consolidate (in memory) everything that is taking place. First-person shooter

games, in particular, increase dopamine levels to sixteen times their normal levels. That's the same dopamine juice that comes from using marijuana, a drug that induces intense focus and shuts down other areas of the brain. The fighting/survival instinct nature of the game can also trigger the brain's amygdala with its "fight or flight" response and the accompanying flood of stress hormones (visually graphic first-person shooter games trigger this to a greater degree). Finally, once the activity is discontinued, an accompanying emotional period of irritability takes place as dopamine levels plummet back to a normal rate.

Fortnite is designed as a third-person shooter game (you are controlling your character rather than being the character), which is best seen as a cross between *The Hunger Games* and Minecraft. This unique design allows for a flow of dopamine juices that make it difficult to stop playing as you enter a virtual world where one hundred players land on an island and have a 20-minute, last-one-standing battle with a variety of weapons, including cross-bows, guns, and rocket launchers. Players are also able to build protective shelters as well as destroy others' shelters. The characters and graphics have a fun, cartoonish look without a depiction of bloody violence. Fortnite has become increasingly popular with girls and women, and there are many female characters to choose from as well. You can dress your character in a variety of costumes (called "skins") and have them perform dance moves to impress fellow players. While the game is free and runs on Xbox, PS4, Mac, PC, and mobile devices, players can purchase Battle Passes for approximately \$10 in order to acquire the latest clothing items. These items are constantly updated, and Epic recently released a collection of soccer jerseys from the 2018 World Cup. If you watched the World Cup, you might have noticed players doing various dance moves from Fortnite and other games after scoring a goal.

In addition to the basic brain dynamics previously discussed, the ability to form a team with your friends (either in person or remotely with headsets) in fun cooperation and exciting competition fits perfectly with the dopamine-driven, social bonding nature of the human brain. Given the desire to “show off,” players can become obsessed with getting the newest skins and displaying their latest dance moves. Concerned about their children’s game performance and their child’s desire to make the cut when their friends pick teammates, parents are now even hiring Fortnite tutors.

While the average game is short, the brief playing time actually adds to the dopamine juice because it comes with a quick turnaround, which means another chance at victory. This is what gamblers experience when they are close to winning and can’t wait to try again. The game also affects the brain’s memorization function. It provides the player with multiple-angled replays so that you can learn from your mistakes and get ready for the next battle. The consolidation in memory can last for several hours after game playing, which means that trying to learn and memorize new homework concepts becomes compromised.

In order to keep your teen from becoming overly obsessed with Fortnite and to avoid incomplete homework, sleep disruptions, averting outdoor activities, arguments about turning it off, and “sneaking” game time, I recommend these steps:

- 1) Play only a couple of games with your kids at a time, and then turn the game off. There are many ways to bond with your teens, and with healthy limits, gaming can become one of them.
- 2) Limit the amount of time your teen can play to 45-60 minutes per day (if you allow electronics during the week) and perhaps two separate one-hour sessions on weekends. Recent

research has shown that a daily one-hour limit helps increase children's sociability. That time limit includes gaming in your own home as well as at a friend's house.

- 3) Instead of implementing a time limit, consider having a two- or three-game limit. (This takes into account the fact that any teen would be horribly embarrassed to leave their friends in the middle of the game.)
- 4) Implement rules for when the game can be played. Gaming time should only take place after homework is complete and should end at least 45 minutes to an hour before bedtime (active screens stimulate the brain and can inhibit the release of Melatonin, our natural sleep compound).
- 5) Consider taking a total break from the game if your son or daughter is caught sneaking it, continually fights about turning it off, is becoming overly frustrated or emotional while playing, or is irritable afterwards.
- 6) Have a limit on how much money can be spent on Battle Passes. After all, what teen doesn't want to be part of the latest fashion trend?
- 7) Keep St. Anne's Middle School free of mobile devices. The temptation to hide a phone under a table in order to sneak a game in can be overwhelming for the developing teen brain.