

PORNOGRAPHY

HARMFUL EFFECTS ON THE BRAIN

37 neurological studies and 230+ Internet addiction “brain studies”, all support the premise that internet porn use can cause addiction-related brain changes, as do 13 recent neuroscience-based reviews of the literature

WHY

SO ADDICTIVE?

Rather than merely taking us to the heights of pleasure, pornography causes our brains to fatigue, deadening us to real satisfaction. Continued exposure to porn releases surge after surge of dopamine, giving the brain an unnatural high. The brain eventually fatigues, damaging its pleasure receptors, leaving the viewer wanting more but unable to reach a level of satisfaction—unless they get more porn or more novel porn. This is called desensitization. Everyday pleasures begin to lose their luster—including sex—and the viewer expands his or her pornographic tastes to get the same level of arousal

ADDICTION

PORNOGRAPHY ABUSES DOPAMINE

As a person chronically floods their brain with dopamine - either from substances or behaviors such as porn viewing - DeltaFosB accumulates, strengthening and growing the brain pathways leading to whatever the person has been bingeing on.¹ The more those pathways grow and build connections between the reward center and anything connected to using, the easier it is to activate them.² In a desensitized brain, this is happening while it's becoming harder for the brain to register the dopamine given off by every day activities. This can fuel addiction because the person is craving porn while other things in their life are losing value to the reward center.



TOLERANCE

PORNOGRAPHY PROVIDES EXTREME NOVELTY

A recent study that compared brain scans of porn users to scans of non-users found that the more porn the person had used, the less their reward center activated when porn images were flashed on a screen.⁶

Once that happens, the person can't feel dopamine's effects as well,⁷ which can leave users looking for more extreme material or using porn more often to compensate for their numbed reward center.

COMPULSION

PORNOGRAPHY WEARS OUT THE PLEASURE CENTRE

A study examining brain scans of porn addicts and comparing them to non-addicts found that the addicts' brains showed an exaggerated response to porn cues, indicated their brains had been sensitized—which can lead to cravings. The study showed that the porn-addicts' brains lit up when they saw porn, the same way a drug addicts' brain lights up when they see something they associate with taking the drug.³

WITHDRAWAL

PORNOGRAPHY REDUCES GREY MATTER

When a brain that has become accustomed to chronic overstimulation stops getting that overstimulation, neurochemical changes in the brain start happening. As a result, many users report withdrawal symptoms.⁴

LOSE CONTROL

PORNOGRAPHY ADDICTION ESCALATES

Sexual deviance can be learned. Some people may initially look at deviant pornography out of curiosity. Some may move up to hard kinds because softer material no longer arouses them. Either way they may learn deviant beliefs and behavior from it. Things that used to lead to disgust now seem less unusual and more common and even normal, and over time, come to seem sexy.⁵

References:

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2. J. A. Kauer and J. C. Malenka. "Synaptic Plasticity and Addiction." *Nature Reviews Neuroscience* 8 (2008): 844-58.
3. Valerie Voon, et al., "Neural Correlates of Sexual Cue Reactivity in Individuals with and without Compulsive Sexual Behaviours," *PLOS One* (2014)
4. Avena, N. M. and P. V. Rada. "Cholinergic modulation of Food and Drug Satiety and Withdrawal." *Physiology & Behavior* 106, no. 3 (2012): 332-36.
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6. Simone Kühn and Jürgen Gallinat, "Brain Structure and Functional Connectivity Associated With Pornography Consumption: The Brain on Porn," *JAMA Psychiatry* (2014): 827-34.
7. Y. Goto, S. Otani, and A. A. Grace, "The Yin and Yang of Dopamine Release: A New Perspective," *Neuropharmacology* 53, no. 5 (2007): 583-87.

IMPACT

ON ADOLESCENT BRAINS

When it comes to children, DR. MARY ANNE LAYDEN Director of the Sexual Trauma and Psychopathology Program at the University of Pennsylvania says: "Pornography, by its very nature, is an equal opportunity toxin. It damages the viewer, the performer, and the spouses and the children of the viewers and the performers. It is a toxic mis-education about sex and relationships. It is more toxic the more you consume, the "harder" the variety you consume and the younger and more vulnerable the consumer. The damage is both in the area of beliefs and behaviors."

Children have an abundance of "mirror neurons" in their brains. Mirror neurons convince us that when we see something we are actually experiencing it. When a man watches pornography, his mirror neurons activate, eventually triggering an erection because his body now believes it is experiencing sex. With the abundance of mirror neurons in children, researchers believe this makes pornography more "real" to them.

Children have an immature prefrontal cortex. This is the area of the brain that controls judgment, controls impulses, and regulates emotion. This region of the brain isn't mature until between ages 20-22. Because children have such a weak prefrontal cortex, they lack the "executive control" to stop the flow of emotions and sensations that come from watching porn.

As the porn pathways deepen, people in everyday life become objects of sexualized fantasy, and inanimate objects, clothing, and situations not designed for sex become sexually charged.



THE ESCALATION OF PORNOGRAPHY ADDICTION

PHASE 1 ADDICTION

Once involved in pornographic materials, they kept coming back for more and still more.

PHASE 2 ESCALATION

Over time, the addicted person required rougher, more explicit, more deviant, and 'kinky' kinds of sexual material to get their 'highs' and 'sexual turn-ons.' It was reminiscent of individuals afflicted with drug addictions.



PHASE 3 DESENSITIZATION

Material which was originally perceived as shocking, taboo-breaking, illegal, repulsive, or immoral, in time came to be seen as acceptable and commonplace.

PHASE 4 ACTING OUT

Increasing tendency to act out sexually the behaviors viewed in the pornography, including frequenting massage parlors.

References:

Dr. Victor Cline, clinical psychologist who treated many with pornography addictions; Victor B. Cline, *Pornography's Effect on Adults and Children* (New York: Morality in Media, 2001)

