

THE SCIENCE BEHIND PORNOGRAPHY

Published on Wednesday 6 April 2016. Dr. Kevin Majeres, University of Harvard.

[This article is taken from a talk I gave at a men's conference. KDM]

Vicious Circles

In cognitive-behavioral therapy we think about behavior having a kind of momentum that works a lot like physical momentum. As you start to ride a bike downhill, you will notice your momentum gradually increasing; it gets easier and easier to pedal as your speed increases and your momentum keeps growing. The problem with this kind of momentum is that it gets harder to slow down: depending on the steepness of the slope, the experience can quickly go from pleasant enjoyment, to exhilaration, to life-threatening danger as you speed out of control. This is the kind of momentum we find in vicious circles. At first it seems benign, but as it picks up speed, freedom shrinks. This process is at the core of all emotional and addictive disorders.

Alternatively, consider a sport or instrument you now love to play, or a skill you have developed. Think about what it was like the very first times you tried it — how does your performance then compare to now? At first everything may have been awkward; but as you persisted, your skills increased, and it became more enjoyable and rewarding; the more you enjoyed it, the more you worked at it, and the more your skills increased. This is a virtuous circle.

True rewards in life all come from virtuous circles. The false rewards in life come at the price of vicious circles.

Our willpower can be amplified by virtuous circles and vicious circles. When I think of my choice to become a doctor, at first it was weak and wavering; as I persisted in my studies, my interest in it grew stronger, and eventually my skills started growing and it become more and more rewarding; now there is nothing I would rather do. The virtuous circle of following my professional path has amplified my willpower, making my decision to be in medicine more firm and secure.

With vicious circles, it's the opposite: like the guy pedaling downhill, it might seem like things are getting easier; but his ability to slow down and change directions is getting harder and harder. His decision to start pedaling downhill is amplified; but he is now a slave to the process, and eventually he will despair. He has really lost the freedom he had originally.

The purpose of morals, commandments, rules, is to protect us from vicious circles. We need them: they tell us where NOT to go pedaling, since once we begin pedaling that direction, the slope starts to decline and soon we may lose control and be headed for a crash. But to be morally thriving, it is not enough to follow rules: we have to pursue the virtue that the commandment points out. "Thou shalt not bear false witness" means that lying is wrong; but a just man isn't motivated just by fear of breaking that commandment; he learns to love honesty. Maybe it's hard at first; but gradually it gets less awkward, and he gets more skilled at being honest without hurting people's feelings, and being honest becomes more and more lovable to him. When we practice a virtue, the virtue gets easier and more rewarding. It is literally a virtuous circle.

When it comes to sexual behaviors, faith and reason can supply us with clear rules; but again, rules are not enough. It is only by loving the virtue of purity that we can truly be motivated to pursue it, even when it is hard, especially at first.

Purity is a virtue that shines — especially from the eyes. It is a light in our souls, and it makes the body feel light — that is, the soul doesn't feel weighed down by the flesh. On the natural level, purity strengthens the mind; our intelligence increases, our grasp of ideas increases in clarity; we are more focused and motivated; and we are able to love others without selfishness.

On the supernatural level, purity makes our physical bodies into fitting temples of the Holy Spirit; it keeps God in the center of all our loves, and makes it easy to say "No" to any pleasure that would involve saying "No" to God.

Whether we speak naturally or supernaturally, purity is always the triumph of love in our lives.

For families, the purity of the father is the strength and stability of the family. His purity produces joy and contentment in his relationship with his wife. Purity elevates his power to find joy in life: first, in his relationship with God; then in being a loving husband and father; then being a good friend, being a good provider for one's family, and so on. All of these goods are sources of joy; and they are all primarily spiritual.

Purity keeps them in first place. The joy of food is not high on the list; if it were higher on the list than it should be, it would mean that the man is a glutton. Similarly, if sex were too high on the list of joys, it would be a sign of impurity.

Purity elevates sex into a way of showing real love and affection for one's spouse – not primarily a way of getting pleasure; purity turns sex into an act of charity. If both spouses see sexual intimacy as being a way of loving each other, their union will continually be renewed and strengthened; and as they welcome the creative action of God in giving the miracle of new life, they love Him too. Charity keeps sex from becoming an end in itself; and by doing this, it keeps men happy and content – content also with their sex lives. Sex is most beautiful, fruitful, and holy when it is ordered by love.

Impurity undoes all of this. Lust makes pleasure the main goal of sex, making sex an end in itself, taking priority over God, one's spouse, the family; lust puts sex into the first place in one's heart. Once a man's heart is captured by lust, nothing is safe for the family: you can never know for sure just what he is willing to sacrifice for the sake of sexual pleasure. In this way, impurity in the father destabilizes the entire family.

The Science of Sexual Interest

Without a permanent commitment and true love for one's spouse, the animal instincts regarding sex come to dominate. Commitment to a person operates through one part of our brain, the upper cortex; and the drive for sexual pleasure comes from another part, the lower cortex.

The question is whether sex is ruled by the upper brain or the lower brain. The upper brain is where rational thought occurs; free will, abstract reasoning, morals, all use the upper brain. The lower brain is where impulses, emotions, memories, feelings take place; it's not rational or deliberate at all, but more automated, mindless.

One of the main concerns of the lower cortex is sexual reproduction. For this reason, sexual cues or triggers are highly magnetic for its attentional systems; and sexual pleasure is the highest activator of its natural reward system. For animals, reproducing is a much higher priority than eating, drinking, finding shelter, even defending their lives. It is common in the animal kingdom for males to kill each other for the chance to reproduce. The lower brain prioritizes reproduction.

Scientists have discovered that if you place a male rat in a cage with a receptive female, they will mate; but once done, the male rat will not mate more times, even if the female is still receptive. He loses all sexual interest. But if, right after he finishes with the first female, you put in a second receptive female, he will immediately mate again; and again a third, and so on, until he nearly dies. This effect has been found in every animal studied. This is called the Coolidge effect.

In young couples who are inexperienced with each other, the romance comes from below, from the lower cortex, driven by strong emotions and impulses; as the couples mature, the romance has to come more from above, from the upper cortex, driven by higher ideals of commitment and caring. It takes a truer and higher form of love – charity – to maintain sexual interest (“keep up the romance”) in adult humans. If the person doesn't have much going on in his upper brain, or if he doesn't have ideals to keep the romance alive, he gets bored; and so he looks elsewhere for the romantic thrill. It's the Coolidge Effect.

This explains why men use pornography. Pornography's power comes from the way it tricks the man's lower brain; one of the drawbacks of this region is that it can't tell the difference between an image and reality. Pornography offers a man an unlimited number of seemingly willing females; every time he sees the new partner, with each click, it gears up his sex drive again. It's like the guinea pig.

This means that the lower brain actually comes to prefer pornography to real sex with a spouse. Think of the difference between playing chess and playing the latest video game; even though chess is physical, it can't compete with the intensity of the video game. The brain prefers the video game, and it also prefers pornography. The reason has to do with a chemical called dopamine.

Dopamine and Tolerance

Let's talk about what is taking place in his brain as he clicks. First, I'll define a word: dopamine. Dopamine is the drug of desire – when you see something desirable, your brain pours out dopamine, saying “Go for it! Do whatever it takes!” Dopamine fixes your attention on that desirable object, giving you your power of concentration. When you are about to do something meaningful, or enjoyable, or something that you're really good at, you get dopamine pushing you forward saying “Go for it!”

So when someone clicks and sees a new pornographic image, his lower brain thinks this is the real thing, this

is the lady he must win over with all his might, and so he gets an enormous dopamine flood in his upper brain, causing a wild amount of electrical energy.

This first exposure to a new female who is a potential mate wasn't something that happened a lot to our ancestors; maybe only once in their lives; so the brain thinks this is a big deal. It doesn't know that now the game has completely changed: it doesn't understand that these are virtual females only; so with each new one it causes another flood of dopamine, time after time, click after click, as long as he continues. It's a dopamine binge.

The brain's can't keep up with this; it's too draining; something has to be done. Take an analogy: what would you do if you are talking with someone on the phone, and he starts screaming at you, so that your ears hurt? You will turn down your phone's speaker volume to cope. But if the person goes back to speaking in a normal volume, all you will now hear is silence.

It's exactly the same in the brain. If a person keeps up the dopamine scream by overstimulating himself with porn, his brain will turn the volume way down — the brain's synapses (connections) do NOT like being overstimulated with dopamine, so they respond by destroying some dopamine receptors. It's how it turns down the dopamine volume. But once the dopamine binge is done, it is left feeling a vacuum of silence, and so it feels depleted.

Escalation

This is why pornography causes a vicious circle. When someone views pornography, he gets overstimulated by dopamine; so his brain destroys some dopamine receptors. This makes him feel depleted, so he goes back to pornography, but, having fewer dopamine receptors, this time it requires more to get the same dopamine thrill; but this causes his brain to destroy more receptors; so he feels an even greater need for pornography to stimulate him.

So as guys keep gaming the dopamine system, they start to find that they have to use pornography for longer and longer periods to have the same effect, and they have to visit more and more sites. Still, eventually they cannot get the same excitement as before. This is the dangerous period. This alone is the number one reason not to get started with pornography.

People often discover a trick for increasing the excitement of dopamine when the effect starts getting weaker. If you want more bang, you need to add adrenaline in the mix.

How do you get more adrenaline?

You have to stimulate another emotion: fear or disgust or shock or surprise. For porn use, you need to start moving to kinkier things, things that make you afraid or make you feel a bit sick; and so you start experimenting with various perversions. You cannot predict in advance what perversion will really kick up your adrenaline; but once it does, watch out – the mix of adrenaline and dopamine is extremely potent. It triggers a new developmental stage for the brain – it triggers something called neuroplasticity, which means “rewiring.”

Ordinarily, our brains are most changeable when we are little kids, under age eight; during that time we can pick up languages and skills really fast. Pornography, we now know, turns this stage back on, so that major rewiring can occur. And what will be wired in now so deeply? Whatever images triggered the adrenaline and dopamine combined surge. The “record” button, which ensures that the thing viewed reshapes the brain, is orgasm, the most powerful natural reward.

It is important to know that sexual arousal can perhaps be greater for things that shock you or disgust you, because of the adrenaline pushing up the dopamine. All this says about someone is that they were shocked or disgusted. Following this up by pressing “record” means that that thing will now be craved in the future.

Numbing

Let's go back to the volume problem. If you were talking to a screamer on your phone, and you turned down the volume to handle the screaming, what happens when the person stops screaming and speaks in a normal tone? Nothing. It's silent.

Similarly, the overstimulation of dopamine by pornography, and the resulting destruction of dopamine receptors, means that there is little dopamine left for ordinary life. There are some telltale signs of low dopamine: feeling bored or lazy; feeling like you can't focus well on anything; feeling restless, anxious, or depressed, or irritable; being unmotivated; being unable to look other people in the eye. Some find that their

memory is impaired, and they fear that they are developing Alzheimers dementia. The numbing can be very powerful.

As one goes numb, one becomes unable to feel the more subtle joys of life: sports and study, and friendships and prayer. People tend to become loners, losing interest in other people; and it gets hard to study, because it gets hard to focus; people develop attention deficit, or have their attention deficit get worse, because you need dopamine to focus. Stimulant medications act by increasing dopamine output in the brain, so people need more of these medicines to deal with their chronically low dopamine.

Finally, remember that dopamine is tied to motivation and will-power. When it gets depleted, the person's sense of willpower is depleted. His lower brain will keep driving him to surge his dopamine and adrenaline levels, giving him lots of dopamine to motivate him to do this; his dopamine system has been hijacked by pornography; and he will find that his brain keeps driving him to view more pornography. He will have less and less willpower to resist. It's a perfect trap: as he keeps going downhill, he discovers he has lost the power to brake.

Life is pretty bleak when one gets caught in a vicious circle.

Overcoming Pornography

So how does one get out of this vicious cycle? The good news is that most people who make a commitment to stop pornography entirely ARE able to stop. They have to recognize the damage and the dangers, and react strongly; they also need to grow in love for the virtue of purity by seeing the joy and peace and host of benefits it brings.

If we have trouble stopping an addictive behavior, there are three areas where we can focus our efforts — three ways of “setting the stage” for growing in self-control.

First, we need to see the times of challenge as opportunities for growth, rather than simply as threats. Viewing temptations as threats leads us to dread them, and dread can charge our emotional cortex, making it more likely to respond automatically. Dreading a time of craving can thus, in a paradoxical way, make it more likely that we will give in when the craving arrives. Dreading is incompatible with patience; patience means seeing the trial as an opportunity to live our ideals, while accepting the discomfort of the unsatisfied craving until it runs its course. The practice of consciously considering challenges as opportunities rather than threats is called reframing.

Second, we need to stay deliberate and recollected while the unsatisfied craving is present; this is the work of mindfulness. If we allow ourselves to fully feel the discomfort of the craving (a physical sense of tension, typically felt most in the chest), we will transform the craving itself into matter for mindfulness. In this context, mindfulness simply means fully attending to one aspect of our present experience – i.e., the tension of the unsatisfied craving; it does not mean paying more attention to the triggering thought or image. When we pay mindful attention to an emotion, it's as if we are telling our emotion generator, the amygdala, that we have gotten the message loud and clear. Once the amygdala knows the message has been received and NOT acted upon, it learns from this new data, leading it to generate a less powerful signal the next time we have that trigger. For a more in-depth explanation and list of resources, see the Mindfulness module of purityispossible.com.

Finally, you have to embrace the challenge. This means that you sees trials as practice, and you use the trial to master the component skills of self-control. This means seeing yourself as capable of growth, and seeing that the effort you put into the struggle, over time, will always bring proportionate growth. Temptations handled well produces the strength of virtues within us. The hardest trials are at the beginning; gradually the habit is strengthened and it gets easier and easier to live the virtue.

No matter what a person has been through, the virtue of purity is always possible. For more details on the cognitive-behavioral approach to purity, please see the teaching modules at purityispossible.com.