The Doctor's Opinion for SPAA

I have been asked by the SPAA community to provide my reflections on the nature of compulsive, addictive use of sex, pornography, masturbation, and sexual fantasy (henceforward referred to simply as "sex"). As a physician and a psychiatrist who has spent the last two decades treating and researching patients with addiction, I am honored to do so.

Let me begin by rebutting the unfounded claims—often embraced by people with addiction themselves—that people cannot get addicted to sex. Common arguments against sex addiction include 'sex is a healthy part of life', 'sexual behaviors represent a lifestyle choice', or simply 'it's not possible to get addicted to something that is not a drug'. I refute these claims on the following grounds.

It is essential to remember that the diagnosis of all mental health disorders is based on phenomenology—similar patterns of behavior observed in different individuals across space and time. There is no blood test or brain scan that can independently identify any psychiatric disorder. The phenomenology of addiction to sex is the same as the phenomenology of addiction to substances like opioids, cocaine, and alcohol; henceforward I will use *drug* to refer to all types of intoxicants, including sex.

People start using drugs for pleasure or to solve a problem. The problem can range from depression, anxiety, and insomnia, to peer pressure, loneliness, and boredom, and everything in between. If the drug works in the short term, then the individual returns to using it repeatedly. Even irrational behavior that is associated with addiction begins with these rational underpinnings.

With repeated use over time, tolerance develops, that is, the drug loses efficacy and the individual needs more of the drug and/or more potent forms of the drug to get the same effect. With sex addiction, tolerance often manifests as: 1) more energy and time spent looking for partners and/or engaging with pornography, masturbation, and fantasy; 2) more deviant (culturally tabooed) forms of sex/pornography/fantasy to increase potency; and 3) riskier use, for example, using in ways or in situations that pose an immediate threat to health, wealth, and relationships.

In addition to tolerance, the individual experiences withdrawal when they cut back or stop using. Withdrawal from a drug does not need to be physical for that drug to be addictive. The universal symptoms of withdrawal from any addictive substance are anxiety, irritability, insomnia, depression, and craving. These aversive psychological states are common in people with sex addiction in the early stages of abstinence. In some patients, I have also seen physical symptoms of withdrawal from sex addiction, including body pain, fatigue, and erectile dysfunction.

The addicted individual eventually arrives at a place where their disease becomes "unmanageable." Their use is out of **c**ontrol. They use **c**ompulsively—repeatedly and without conscious intent in the face of planning not to use. They experience **c**raving for their drug, which can be mental, physical, or both. And they suffer significant life **c**onsequences yet struggle to stop. These represent the 4 **C**'s of addiction: **c**ontrol, **c**ompulsions, **c**raving, and **c**onsequences.

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Beyond phenomenology, advances in neuroscience in the last 75 years demonstrate that all reinforcing drugs (including sex) work on the same reward pathway and involve the same reward neurotransmitter—namely, dopamine. All reinforcing drugs cause a spike in dopamine. Human imaging studies show activation of the reward centers of the brain when viewing pornography and during orgasm. Many different types of studies in animals and humans show that with repeated use of any reinforcing drug, the brain adapts to chronically elevated levels of dopamine by decreasing dopamine receptors, thus creating a dopamine-deficit state.

One way to think about the dopamine-deficit state is to imagine that in our brains there is a balance: A beam on a central fulcrum, like a teeter-totter in a kid's playground. This balance represents how we process pleasure and pain. When the teeter-totter is at rest, the beam is level with the ground. When we feel pain, it tips one way. When we feel pleasure, it tips the other. One of the overarching rules governing this balance is that it wants to stay level, and after any deviation from neutrality, our brains will work hard to restore a level balance, or what neuroscientists call *homeostasis*. The brain does this by tipping an equal and opposite amount to whatever the initial stimulus was before going back to the level position. I like to imagine this as 'neuroadaptation gremlins' piling onto the pain side of the balance to try to bring it level again. But the gremlins like it on the balance, so they don't hop off at the level position. They stay on until the balance has tipped an equal and opposite amount to the side of pain. We experience the balance tipping to the side of pain as the comedown or the hangover.

If we wait long enough, the gremlins eventually hop off the balance (the brain adapts) and a level balance (homeostasis) is restored, but there's a natural tendency to want to counteract the comedown by going back for another dose. With repeated doses over time, we accumulate more and more gremlins on the pain side of our balance. Now we're in a dopamine-deficit state: We need more potent and larger amounts of our drug to compete with the gremlins and feel pleasure. When we're not using, we're experiencing the universal symptoms of withdrawal from any addictive substance as described. We've effectively changed our set point for experiencing pleasure and pain. That is, we're addicted. The addicted brain doesn't need a reason to keep using. The drive for homeostasis is sufficient to perpetuate the behaviors.

Addiction is a *biopsychosocial disease*, which means it's caused by the interaction between the brain, the person, and the environment. We are living in a time when the quantity, variety, and potency of highly reinforcing drugs has never been greater. This interaction has special relevance for sex addiction. The advent of the Internet, and in particular the smartphone with its 24/7 access to pornography and sex partners, has vastly contributed to the prevalence of sex addiction. Artificial intelligence algorithms that learn patterns of consumption and proffer digital products unbidden with emails, texts, alerts, and push notifications, including graphic pornographic images, makes it nearly impossible to avoid these stimuli without avoiding the Internet altogether. Our cultural preoccupation with sex, along with cultural narratives that normalize casual sex and hook-ups, has in turn made it harder to identify sex addiction when it exists.

Further, sex addiction may carry with it an additional layer of shame. Sexual activity occurring outside the partnership is almost always accompanied by a sense of romantic betrayal and the erosion of basic trust. Ironically, sex addiction at its core is not about sex. It's about maladaptive coping.

Which brings us to what we can do about it.

A growing body of scientific evidence shows that active participation in 12 Step programs allows people to get into and stay into recovery from addiction. I have seen examples in my own clinical practice of people with severe sex addiction getting into recovery with the help of 12 Step programs like SPAA.

Recovery from sex addiction begins with abstinence. SPAA defines abstinence as: “No sex with oneself (masturbation), no sex outside of a committed relationship and no viewing of pornography.”

From a neuroscience perspective, abstinence is necessary to allow enough time for the neuroadaptation gremlins to hop off the pain side of the balance and for dopamine homeostasis to be restored. Dopamine homeostasis is necessary to resolve withdrawal-mediated anxiety, irritability, insomnia, depression, and craving. Sufficient abstinence is also necessary to see true cause and effect: When we’re chasing dopamine, we lose sight of how our drug use is impacting our lives. Our attention becomes narrowly focused on obtaining and using our drug of choice and we become blind to other information. This is sometimes referred to as the *hijacked brain*. A period of abstinence restores our ability to make choices based on true information.

I have learned from my patients that they also need to abstain from triggers and cues that lead to their addictive behavior. In SPAA, edging is defined as behaviors that “give us a ‘hit’ of our drug and often lead to the loss of our sobriety.” This is literally true since we know that even reminders of our drug can release dopamine in the brain’s reward pathway. Importantly, the small increase in dopamine triggered by a drug cue is followed by a small dopamine-deficit state. This suggests that by exposing the brain to a mere reminder of the drug, the individual might be plunged into the crippling physiology that drives compulsive use. By abstaining from triggers/edging, including fantasy and euphoric recall, the individual is avoiding the pain of addiction. Edging behaviors in SPAA include looking at social media apps for arousing, non-pornographic images, flirting, fantasizing, and the list goes on.

Animal studies show that once an animal associates a cue, like a light or a bell, with the imminent arrival of a reward like cocaine, that animal will experience a spike in dopamine when seeing the light or hearing the bell, even before the cocaine is delivered. In other words, just being reminded of the drug makes the animal a little bit high. Importantly, the small increase in dopamine at the cue is followed by a small dopamine-deficit state, that is, the experience of craving and dysphoria, which creates the motivation to seek out the drug to relieve the pain.

Another basic principle in neuroscience is at play here. Neuroscientist Donald Hebb famously said, “Neurons that fire together, wire together,” describing how pathways in the brain are reinforced through repetitive use. We create neural circuits by repeatedly engaging in addictive thoughts and behaviors. To change those behaviors, we need to create new “recovery” circuits with new thoughts and behaviors. To make these new circuits prosper, we need to keep regular attention on recovery.

You might think of this in terms of growing a garden. If we’ve tended to a certain crop for many years growing our addiction, the routine of daily watering and the mulch we’ve transported in wheelbarrows will have tamped down pathways and left deep ruts in the soil. It therefore makes sense that if we decide to grow a new garden in a new location, it will take a long time for the original plants to die out and the deep ruts in the soil to disappear, just as it will take a long time for our new seeds to take root in a new patch of soil. To make our new garden prosper, we need to keep weeding, which means regular attention to recovery.

Twelve-step programs help keep our attention on recovery in many different ways. They provide emotional support, a sober social network, and a safe harbor in times of distress. The fellowship also functions as an extended hippocampus (memory repository) to compensate for the brain's inability to remember the gremlins.

What exactly do I mean by that? Let me explain.

Human beings have a keen and enduring memory for the initial stimulus, whether pleasure or pain, but little or no memory of the gremlins that follow. We remember the initial pleasure, but not the pain on its heels. The constant cycle of old and new stories in SPAA allows us to tap into our collective memory. By encouraging honesty, the 12 Steps hold members accountable while also providing acceptance and a path to recovery in the face of those behaviors. I hypothesize that the practice of "rigorous honesty" may strengthen the prefrontal cortex, which is a part of the brain essential for future planning and delayed gratification. Brain-imaging studies have shown that when people engage in short-term rewards, the pleasure pathway lights up. When people engage in delayed, long-term rewards, the prefrontal cortex lights up.

Most importantly, 12 Step programs are not just about the pain and suffering that inevitably accompanies breaking deep-seated addictive behaviors and getting "sober." They also promise and produce a better life, a life in which the individual can experience authentic joy and connection and human flourishing. Members of SPAA had this to say about their journey of recovery in the fellowship: "I felt something change in me, a weight lifting off my shoulders," "It allowed me to live the life I was intended to live and be happy and joyous," "It gave me a clear head so I was able to be more present in the moment," and "Things roll off my back more now, and I'm more resilient."

It's not just the giving up, it's the gaining of something better. That is the promise of recovery.

Anna Lembke, MD
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