Maladaptive or misunderstood? Dopamine fasting as a potential intervention for behavioral addiction

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Abstract
In this commentary, we strive to illustrate common misconceptions of the dopamine fasting fad that has become popular among wellness enthusiasts and purported by health gurus. Here, we review the proposed Dopamine fasting technique for managing behavioral addictions as proposed by California psychiatrist Dr. Cameron Sepah. We first summarize correct and incorrect interpretations of what Dopamine fasting involves. Next, we contextualize the role of dopamine as it relates to behavioral modification interventions for addiction. Particularly, we discuss the role of dopamine in behavioral addiction and the effectiveness of cognitive behavioral therapy (CBT) techniques for various addictions which are the basis of the proposed dopamine fasting technique. While we see potential for dopamine fasting to offer significant benefits to individuals, we highlight the limitation of the self-guided aspect of dopamine fasting, which could pose physical and emotional harm to individuals if the guideline is misinterpreted or misused as the sole treatment for severe disorders which require clinician input. Future studies should aim to assess not only the scientific efficacy of dopamine fasting as a potential treatment approach for behavioral addiction, but also the needs and well-being of individuals who seek self-directed treatment from popular media trends.

KEYWORDS
addiction, behavior change, CBT

1 INTRODUCTION

While alcohol, tobacco, or psychoactive drugs can become addictive, addiction is not always in the form of dependency on alcohol or other substance use disorders (SUD).1 In particular, behavioral addiction, which describes uncontrollable impulses of repeating a seemingly normal activity, like emotional eating, shopping, social media, or gaming, can be equally disruptive and distressful in excess.2–4 For those who strive to manage impulsive behaviors that lead to significant impairment in their lives, California psychiatrist Dr. Cameron Sepah proposed a cognitive behavioral therapy (CBT)-based technique called dopamine fasting.4,5 This method has been proposed to help people manage addictive behaviors by restricting impulsive engagement to ultimately promote behavioral flexibility.5 However, due to misinterpretation of its name, dopamine fasting has been widely misunderstood and inappropriately applied.4–7
Kirsty Grant, a BBC reporter, wrote an article on her 24-h experience with dopamine fasting. In her interpretation, it is a lifestyle trend from Silicon Valley that involves “cutting yourself off from almost all stimulation for 24 h.” A shocking list of things such as exercise, eating, music, and reading are prohibited in her proposed routine, and the only things that are “allowed” are walking, meditating, writing, and drinking water. “This day has been really difficult, the hunger and boredom have been overwhelming,” she wrote. “… I kind of feel like I’m punishing my body.” Similarly, James Sinka and Andrew Fleischer, two serial entrepreneurs, interpreted dopamine fasting as “complete sensory deprivation.” In line with this understanding, the two made efforts to prevent excitement from eye contact, talking, or light stimulation. However, in contrast to Grant’s disappointment, they claimed that everyday tasks become much more enjoyable after the experience.

In reality, neither group interpreted dopamine fasting correctly, and they are not the only ones to do so. Dr. Sepah points out that media portrayals are major contributors to public misunderstanding of the term, but other factors such as the use of the word “fasting” may have also led to misinterpretations. For instance, rather than reducing dopamine or avoiding all stimulation, the focus should be on reducing the impulsive behaviors that are problematic for individuals. In “The Definitive Guide to Dopamine Fasting 2.0,” Dr. Sepah elaborates on the CBT background for the intended version of dopamine fasting and hoped that readers will better appreciate the rationale for the technique.

2 | THE DOPAMINE FASTING 2.0 SCHEDULE PROPOSED BY DR. CAMERON SEPAH

In summary, Dr. Sepah recommends dopamine fasting for controlling six categories of impulsive behaviors: (1) pleasure or emotional eating, (2) Internet or gaming, (3) gambling or shopping, (4) porn or masturbation, (5) thrill or novelty seeking behaviors, and (6) recreational drug use. It is emphasized that abstaining from all pleasures is not the goal of dopamine fasting; instead, individuals should specifically target behaviors that cause distress, impairment to daily work or life performance, or addictiveness. For each category, Dr. Sepah outlines acceptable exceptions that are important for health and unrelated to the main concern of addiction. Overall, it was emphasized that dopamine fasting is not specifically altering one’s health state, but rather the act of restricting problematic habits by replacing them with health-promoting activities that align with individual values. Dr. Sepah suggests that even if individuals absolutely cannot abstain from addictive behaviors, gradually cutting back engagement with these activities during the day can still lead to behavioral flexibility to be sustained in the long run.

It is apparent that dopamine fasting 2.0’s guidelines can highly vary between individuals and have lots of rooms for interpretation. Dopamine fasting emphasizes on maintaining a healthy lifestyle where pleasure is present but under control. In the common misconception of cutting out all behaviors that bring pleasure, individuals may not only receive minimal benefit but also damage their physical or emotional health. As this was a trend made popular by media, there are currently no known scientific evidences that demonstrate the effectiveness of this specific dopamine fasting guide. However, as it is based on CBT, it is still beneficial to examine available evidence of CBT and addiction.

3 | REINFORCEMENT AND HABITUATION: ROLE OF DOPAMINE IN BEHAVIORAL ADDICTION

First, it is important to understand the role of dopamine in addictions. Initiation of voluntary behaviors partially relies on the dopamine motivation system, specifically in motivating behaviors after conditioned learning and reinforcements. In classical conditioning, a stimulus that naturally elicits a response can be paired with a neutral stimulus, resulting in the new stimulus becoming conditioned to elicit the same response as the natural stimulus. Such conditioned association can be repeatedly reinforced by rewards, and each repetition causes specific dopamine neurons to unconditionally respond to the stimuli that reliably predict the reward. Consequently, this causes an increase in the likelihood and strength of the behavioral response. In other words, the subject is motivated to repeat a certain action in anticipation of a reward. In the case of behavioral addiction, the frequency and impulsive nature of this repetition lead to distress, interference with daily living, or an inability to cut down the behavior.

As dopamine is an essential neurotransmitter, behavioral changes are a key for controlling addiction. Dr. Sepah applied two CBT-based techniques in his dopamine fasting guideline: stimulus control and exposure and response prevention. In stimulus control, access to objects that are implicated in addictions is restricted either physically (i.e., removing phone from the room) or made impossible (i.e., blocked out by software, or if the user engages in an activity incompatible to the addictive behavior). In exposure and response prevention, the main goal is to expose oneself to the stimulus without engaging in the conditioned response. Instead, the focus is on adjusting the user’s attitude and feelings until temptation from the stimuli could no longer force them away of their daily routine. In either case, the ultimate goal is to weaken the original conditioned association between the behavior and reward, also known as habituation. This reduces the impulsivity and allows the subject to regain flexibility of behaviors, therefore gaining control over the addiction.

4 | CURRENT EVIDENCE AND LIMITATIONS OF CBT FOR ADDICTION

Some studies on the effect of CBT in mitigating addiction show promising results. A study found that the majority of their clients with Internet gaming disorder were able to effectively manage symptom after undergoing CBT developed for Internet addiction. Another study that focused on gambling addiction assessed the effectiveness of CBT involving stimulus control, where access to money is restricted. While the risk of relapse was similar between groups, the group under-
going money control intervention had lower risk of dropout, gambling severity, and comorbid psychopathologies. Another study that applied a mindfulness-action-based CBT intervention for concurrent binge eating disorder and SUD found significant improvements in symptom severity. Lastly, a study compared behavioral couples therapy and CBT for alcohol dependence, ultimately finding both to be effective to change drinking behavior.

Not all studies suggest benefits. One study that applied CBT intervention to help women maintain weight loss had only 31.3% success rate among 86 participants, and success was mainly predicted by lower addiction intensity at baseline. Another study assessed the effect of CBT for preventing relapse upon discontinuation of antidepressant drugs in patients with remitted anxiety disorder, only to find a low success rate with one participant dying due to suicide. The implication of withdrawal symptoms as well as the ethical aspect of short-term interventions is vital to consider prior to applying CBT techniques.

Dr. Sepah’s dopamine fasting 2.0 guideline is mainly directed to an audience group looking for self-implemented behavioral changes. As such, it did not emphasize the importance of consulting medical professionals prior to restricting drug use, which overlooks the risks and consequences of drug withdrawal that may not be compensated by CBT alone. In combination with the previously discussed concern of misinterpretation that could lead to harmful lifestyles, the validity of popular media trends as replacement for formal medical consultations with professionals is brought to question. Nevertheless, computer-based CBT with minimal clinical monitoring was shown to be a safe and effective approach for treatment-seeking outpatients with SUD, and that it in fact showed more benefits than clinician-delivered individual CBT. It may be beneficial for future research to find a safe balance of monitoring between self-guided and clinician-guided interventions.

5 | CONCLUSION

As Dr. Sepah had suggested, behaviors that elicit distress, impairment, or addictiveness to the individuals should be the target for dopamine fasting. Instead of entirely avoiding activities involving stimulation or pleasure, the true potential benefit of this CBT-based technique is to help reduce the frequency of impulsive behavior while restoring the flexibility of healthy daily living. Ultimately, if dopamine fasting is applied appropriately as per the intention of Dr. Sepah without risks of harm to the user’s physical and mental health, it has potential to be an effective approach that targets problematic habits and restores control over behaviors that bring pleasure to people’s daily lives. Future studies should aim to assess the efficacy and safety of self-guided dopamine fasting or CBT-based practices in controlled settings.

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DATA AVAILABILITY STATEMENT

Data sharing not applicable – no new data generated.

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