

Behavioral Addictions: Not all addictions are substance use disorders

**Presented by Emily Brunner MD DFASAM, Paul Earley MD
DFASAM, Margaret Jarvis MD DFASAM and
Timothy Fong MD**

Presented at ASAM in Baltimore, MD on April 5, 2024



Disclosures

Behavioral Addictions

April 5th at 1:15 PM

Emily Brunner MD DFASAM

☀ None



Disclosure

Food Addiction, An Addiction for Modern Times

April 5, 2024 – 1:15 pm

Paul H. Earley, M.D., DFASAM

☀ COI Disclosure:

- ☀ Stock in DynamiCare Health, Inc. (not discussed here)



Margaret Jarvis MD DFASAM



Behavioral Addictions: Not all addictions are substance use disorders!

April 5 at 1:15 PM to 2:30 PM

Timothy Fong MD

☀ Research Support: Connections in Recovery



Learning Objectives

- ☀ Understand that the neurobiology of behavioral addiction is the same system involved in the neurobiology of substance use disorders
- ☀ Appreciate the specific tools that can be used for diagnosis of various behavioral addictions
- ☀ Discuss the current evidence-based treatment available for treatment of behavioral addictions

Behavioral Addictions

- ☀ Food addiction
- ☀ Sexual addiction
- ☀ Gambling Disorder
- ☀ Internet Gaming Disorder
- ☀ Shopping
- ☀ Stealing
- ☀ Social Media Addiction

What do the experts say?

- ✱ The DSM V includes gambling disorder as a behavioral addiction, which was the first formal recognizable diagnosis
 - ✱ DSM V was finalized in 2013
- ✱ Internet gaming disorder was also included as a proposed diagnosis under investigation
 - ✱ Of note: this condition does not include issues with internet in general or social media
- ✱ In late 2017, it was announced the WHO was adding video gaming disorder in the ICD11 as an official diagnosis
- ✱ Patients and experienced treatment providers have clearly recognized food and sex addiction for decades and sought peer supported help
- ✱ Overeaters Anonymous (OA) is a 12-step mutual help group founded in 1960 to support individuals who perceive themselves as food addicts
- ✱ Sex and Love Addicts anonymous was founded in 1974

What do patients say?

- ☀ Patients and experienced treatment providers have clearly recognized food and sex addiction for decades and addressed these issues via CBT and peer support programs
- ☀ Overeaters Anonymous (OA) is a 12-step mutual help group founded in 1960 to support individuals who perceive themselves as food addicts
 - ☀ 60,000 people in 75 countries attend regularly
- ☀ Sex and Love Addicts anonymous is a 12-step mutual help program that was founded in 1974
- ☀ Gambler's Anonymous is a 12-step mutual help group that was established in 1957
 - ☀ There are over 1000 groups in the US, and since coronavirus a number of these are also available online via zoom, etc.

Common Threads

- ☀ All of these disorders are more difficult to treat in terms of determining “abstinence” or other clear individualized goals because all of these things are major components of modern life that patient should still be able to engage in
- ☀ Evidence-based, specific treatment for these issues is difficult to find, especially if higher LOC needed
- ☀ There is a clear increased risk of developing issues after being started on dopaminergic medications (e.g., pramipexole, ropinirole) showing an increase in Compulsive behaviors (such as uncontrolled shopping, gambling, eating, and sexual urges) stemming from neuropsychological changes
- ☀ There is no clear pathway to funding further investigation of these issues

Food Addiction

And Related Conditions

Paul H. Earley, M.D., DFASAM



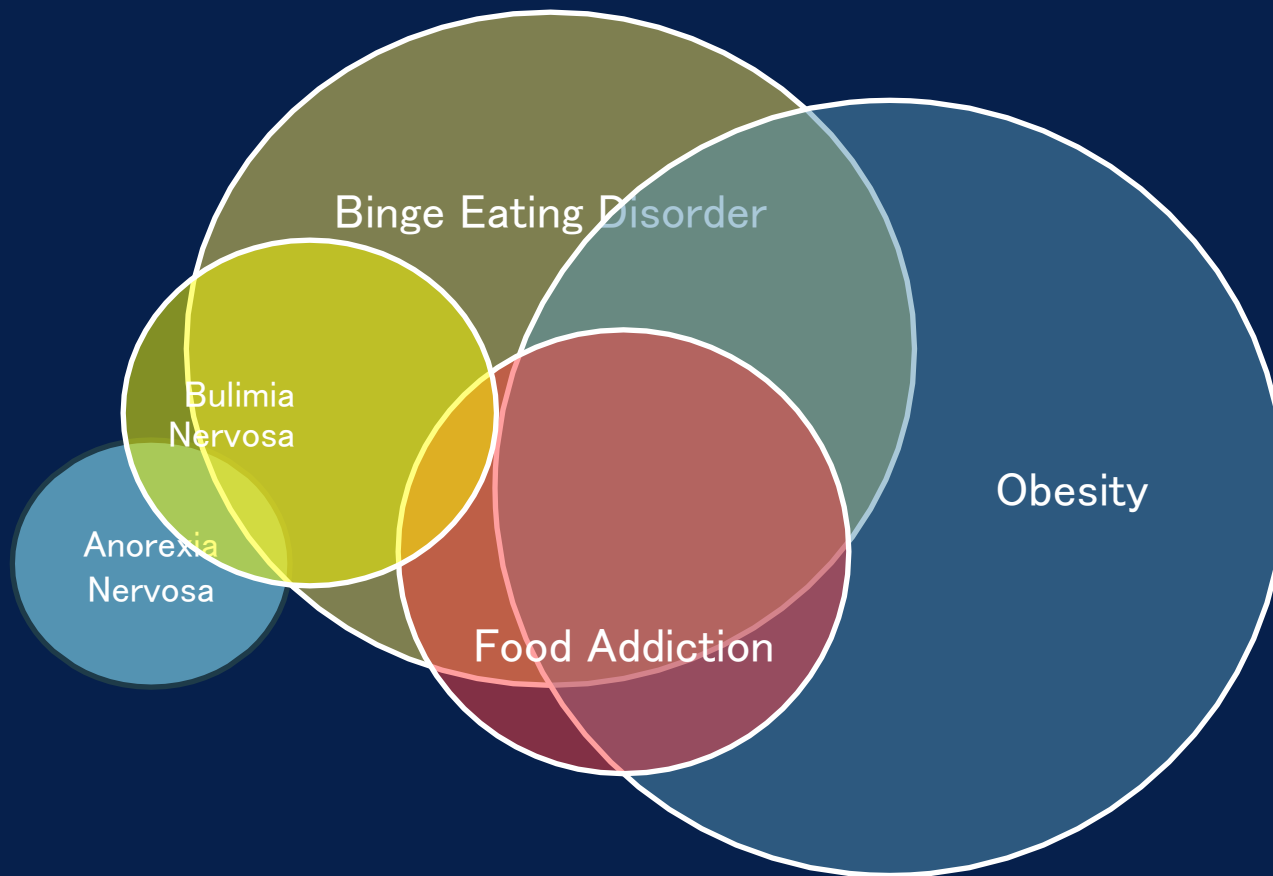
Food Addiction and related conditions

- ✱ Bulimia Nervosa
- ✱ Binge-eating disorder
- ✱ Anorexia Nervosa
- ✱ Obesity
- ✱ Food Addiction
- ✱ Drug and Alcohol Addiction(?)¹

¹ Brisman, J. and M. Siegel (1984). "Bulimia and alcoholism: Two sides of the same coin?" *J Subst Abuse Treat* 1(2): 113-118.

Disordered Food Relationships

Overlapping Terms and Conditions



Fletcher, Paul C., and Paul J. Kenny. "Food addiction: a valid concept?," *Neuropsychopharmacology* 43.13 (2018): 2506-2513.
Gearhardt AN, White MA, Masheb RM, Morgan PT, Crosby RD, Grilo CM. An examination of the food addiction construct in obese patients with binge eating disorder. *Int J Eat Disord*. 2012;45:657–63

Ethnobiology of Food Addiction

- ✱ Availability of calorie dense foods was scarce for the vast majority of human evolution.
- ✱ Postulate: Natural selection reinforced development of reward and motivation systems of the brain that optimized accretion of sufficient calories for survival.¹
- ✱ Calorie-dense foods would then trigger such reward circuitry.
- ✱ High availability of ultra processed, calorie dense foods alters reward and motivational circuitry.
- ✱ This drives food addiction.

Is Food Addiction a "thing?"

- ☀ One argument for validating Food Addiction, is the existence of specific nutrients that “ultimately hijack reward-related behaviors”¹
- ☀ Reward from eating is controlled by the mesolimbic dopamine (DA) pathway of the VTA and its projections to circuits implicated in reward, such as the insula, thalamus, striatum, amygdala, ventromedial prefrontal cortex, and orbitofrontal cortex.^{2,3}
- ☀ Importantly, certain behavioral addictions exhibit the clearest signs of addiction without a confirmed neurophysiological substrate or MOA, the archetype being gambling dependence.

1 Fletcher, P. C. and P. J. Kenny (2018). "Food addiction: a valid concept?" *Neuropsychopharmacology* 43(13): 2506-2513.

2 Carter, A., et al. (2016). "The Neurobiology of “Food Addiction” and Its Implications for Obesity Treatment and Policy." *Annual Review of Nutrition* 36(1): 105-128.

3 Gearhardt, A. N. and E. M. Schulte (2021). "Is food addictive? A review of the science." *Annual Review of Nutrition* 41: 387-410.

Yale Food Addiction Scale

Yale Food Addiction Scale

Gearhardt, Corbin, Brownell, 2009

Contact: agearhar@umich.edu for scoring instructions

This survey asks about your eating habits in the past year. People sometimes have difficulty controlling their intake of certain foods such as:

- Sweets like ice cream, chocolate, doughnuts, cookies, cake, candy, ice cream
- Starches like white bread, rolls, pasta, and rice
- Salty snacks like chips, pretzels, and crackers
- Fatty foods like steak, bacon, hamburgers, cheeseburgers, pizza, and French fries
- Sugary drinks like soda pop

When the following questions ask about "CERTAIN FOODS" please think of ANY food similar to those listed in the food group or ANY OTHER foods you have had a problem with in the past year

IN THE PAST 12 MONTHS:		Never	Once a month	2-4 times a month	2-3 times a week	4 or more times or daily
1.	I find that when I start eating certain foods, I end up eating much more than planned	0	1	2	3	4
2.	I find myself continuing to consume certain foods even though I am no longer hungry	0	1	2	3	4
3.	I eat to the point where I feel physically ill	0	1	2	3	4
4.	Not eating certain types of food or cutting down on certain types of food is something I worry about	0	1	2	3	4
5.	I spend a lot of time feeling sluggish or fatigued from overeating	0	1	2	3	4
6.	I find myself constantly eating certain foods throughout the day	0	1	2	3	4
7.	I find that when certain foods are not available, I will go out of my way to obtain them. For example, I will drive to the store to purchase certain foods even though I have other options available to me at home.	0	1	2	3	4
8.	There have been times when I consumed certain foods so often or in such large quantities that I started to eat food instead of working, spending time with my family or friends, or engaging in other important activities or recreational activities I enjoy.	0	1	2	3	4
9.	There have been times when I consumed certain foods so often or in such large quantities that I spent time dealing with negative feelings from overeating instead of working, spending time with my family or friends, or engaging in other important activities or recreational activities I enjoy.	0	1	2	3	4
10.	There have been times when I avoided professional or social situations where certain foods were available, because I was afraid I would overeat.	0	1	2	3	4

Schulte, E. M. and A. N. Gearhardt (2017). "Development of the modified Yale food addiction scale version 2.0." European Eating Disorders Review 25(4): 302-308.

Prevalence of food addiction

- ☀ One meta-analysis of > 262,000 individuals in 272 studies, (mostly diagnosed with obesity) showed ~20% of such individuals were diagnosed with Food Addiction by the YFAS.¹
- ☀ Greater than WHO incidence of tobacco² (19.2%) and AUD³ (18.2%).

1 Praxedes, D. R. S., et al. (2022). "Prevalence of food addiction determined by the Yale Food Addiction Scale and associated factors: A systematic review with meta-analysis." *European Eating Disorders Review* **30(2)**: 85-95.

2 World Health Organization. (2019). WHO report on the global tobacco epidemic, 2019: Offer help to quit tobacco use. World Health Organization.

3 World Health Organization. (2019). Global status report on alcohol and health 2018. World Health Organization.

Treatment

- ☀ The most common treatment is behavioral and psychotherapeutic.
- ☀ Some providers believe recovery can be modeled after SUDs, eliminating, as much as possible, the agent of compulsion from the diet.¹
- ☀ Recent patient experiences with semaglutide suggest additional pharmacological agents may help and may alter brain circuitry associated with food addiction.

¹ <https://www.knowaddictionacademy.com/>

Semaglutide Treatment

- ☀ Semaglutide consistently decreases the intake of alcohol, cocaine and food in animal studies.
- ☀ GLP-1R receptor agonists (like semaglutide) increase dopamine activity and alter reward-related behaviors.¹
- ☀ Semaglutide in limited studies is the most effective off-label medication for binge-eating disorder.²
- ☀ In the context of obesity treatment, semaglutide and Tirzepatide decrease alcohol consumption.³

1 Kooij, K. L., et al. (2023). "GLP-1 receptor agonist semaglutide reduces appetite while increasing dopamine reward signaling." *Neuroscience Applied*: 103925.

2 Richards, J., et al. (2023). "Successful treatment of binge eating disorder with the GLP-1 agonist semaglutide: A retrospective cohort study." *Obesity Pillars* **7**: 100080.

3 Quddos, F., et al. (2023). "Semaglutide and Tirzepatide reduce alcohol consumption in individuals with obesity." *Scientific Reports* 13(1): 20998.

Compulsive Sexual Behavior Disorder

Margaret Jarvis MD DFASAM

What do we call this?

- ☀ Sex addiction
- ☀ Sexual compulsivity
- ☀ Hypersexual disorder
- ☀ Porn addiction
- ☀ Compulsive sexual behavior disorder
- ☀ Pathological sexuality
- ☀ Excessive sexual drive
- ☀ Psychosexual disorder
- ☀ Sexual disorder NOS

DSM V (published 2013)

- ✱ Previous editions had more specific diagnoses, though not otherwise specified
- ✱ There was a proposed “**Hypersexual Behavior Disorder**” (Kafka, 2010) that underwent field trials but was turned down
- ✱ Closest current diagnosis is “Other Specified Disruptive, Impulse-Control And Conduct Disorder”
- ✱ “Other Specified Mental Disorder” also possible

ICD 11 (2019) Compulsive Sexual Behavior Disorder

- ✱ neglecting health and personal care or other interests, activities and responsibilities
- ✱ numerous unsuccessful efforts to control or significantly reduce repetitive sexual behavior
- ✱ engage in repetitive sexual behavior despite adverse consequences
- ✱ continues to engage in repetitive sexual behavior even when he/she derives little or no satisfaction from it

ICD 11 (2019) CSBD

- ✱ a persistent pattern of failure to control intense, repetitive sexual impulses or urges
- ✱ resulting in repetitive sexual behaviour over an extended period (e.g., six months or more) not better accounted for by another psychiatry disorder, medical condition or medication
- ✱ causes marked distress or impairment in personal, family, social, educational, occupational or other important areas of functioning
 - ✱ The distress cannot come only from judgements

Reduced Satisfaction Over Time

Table 1. Comparison of compulsive sexual behavior disorder conceptualization proposed for ICD-11 and hypersexual disorder proposed for DSM-5

Compulsive sexual behavior disorder proposed for ICD-11	Hypersexual disorder proposed for DSM-5	Domain
1. Repetitive sexual activities become a central focus of the person's life to the point of neglecting health and personal care or other interests, activities and responsibilities	A1. Time consumed by sexual fantasies, urges or behaviors repetitively interferes with other important (non-sexual) goals, activities and obligations.	Domain: Excessive focus and amount of time dedicated to sexual behavior to the point of neglecting other important life domains.
2. A person makes numerous unsuccessful efforts to significantly reduce repetitive sexual behavior	A4. Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges or behaviors.	Domain: Impaired control.
3. The pattern of failure to control intense, sexual impulses or urges and resulting repetitive sexual behavior causes marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning.	B. There is clinically significant personal distress or impairment in social, occupational or other important areas of functioning associated with the frequency and intensity of these sexual fantasies, urges or behaviors.	Domain: Sexual thoughts or behavior generating marked or significant distress and/or impairment in functioning.
4. A person continues the engagement in repetitive sexual behavior despite adverse consequences.	A5. Repetitively engaging in sexual behaviors while disregarding the risk for physical or emotional harm to self or others.	Domain: Continued engagement in sexual behaviors despite risk and/or adverse consequences
5. A person continues the engagement in repetitive sexual behavior despite deriving little or no satisfaction from it	Not present	Domain: Compulsive engagement involving less sexual satisfaction over time.
Not present	A2. Repetitively engaging in sexual fantasies, urges or behaviors in response to dysphoric mood states (e.g., anxiety, depression, boredom, irritability). A3. Repetitively engaging in sexual fantasies, urges or behaviors in response to stressful life events.	Domain: Using sexual behavior as a maladaptive coping strategy in response to unpleasant emotional states or stress
Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviors is not sufficient for a CSBD diagnosis.	Not present	Exclusion criterion: distress entirely related to moral incongruence
Not present	C. These sexual fantasies, urges or behaviors are not due to the direct physiological effect of an exogenous substance (e.g., a drug of abuse or a medication).	Exclusion criterion: CSBD episodes directly due to exogenous substances

Response to Unpleasant Emotions

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Exclude distress about moral judgements

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Exclude episodes directly related to exogenous substances

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Assessments

- ☀️ Hypersexual Behavior Inventory (Reid et al. 2011)
- ☀️ Hypersexual Disorder Screening Inventory (HDSI) (Reid, et al. 2012)
- ☀️ Sexual Compulsivity Scale (Kalichman, 1994)
- ☀️ Sexual Addiction Screening Test – Revised (Carnes, 2010)

Anatomy/physiology

- ☀ fMRI and other studies using Parkinson's disease with HSB as model.
- ☀ Controlled studies looking at relationship between mood and arousal

Medications

☀ Small RCT's or cross overs looking at:

☀ Naltrexone

☀ SSRI's

☀ Anti-androgens

Non-medication treatments

☀ Small RCT's looking at

☀ ACT

☀ CBT

☀ TMS

Anatomy and pathology

- ☀ Controlled trials and RCT looking at relationship between emotional/ mood dysregulation and hypersexual behavior in both men and women.
- ☀ fMRI looking at arousal/inhibition, sometimes using medicated Parkinson's disease as the model.

12 step groups

For the affected individual

- ☀ Sex Addicts Anonymous
- ☀ Sex and Love Addicts Anonymous
- ☀ Sexual Compulsives Anonymous
- ☀ Sexaholics Anonymous
- ☀ Sexual Recovery Anonymous

For Partners/families/others

- ☀ COSA
- ☀ S-Anon

Gaming Disorder

Emily Brunner MD DFASAM



Prevalence Estimates

- ☀ In 2021, Stevens et al. (2021) determined a 3.05% worldwide global prevalence of gaming disorder, based on figures reported by 53 different studies that included 226,247 participants from seventeen countries.
- ☀ Stevens et al. (2021) adjusted this prevalence rate to 1.96%, when they limited their analysis to only the studies that adopted stringent sampling criteria.
- ☀ Males have higher rates of gaming disorder in many studies, as much as 2.5 times the rate of females (Stevens et al. 2021), although not all studies find this (e.g. King & Potenza, 2020) and sampling bias may be present.
- ☀ Young people, under 18, have consistently higher rates of GD than do adults.

Neural basis of video gaming

- ☀️ Neuroimaging study done on 154 healthy 14 yr old adolescents recruited from secondary schools in Berlin
- ☀️ In a comparison between frequent gamers and infrequent gamers, it was found a higher volume in the left ventral striatum is associated with frequent video game playing and also exhibited enhanced dopamine release
- ☀️ Postulated that “individuals with higher ventral striatum volume may experience video gaming as more rewarding”

Harms

- ✱ The most common negative consequences of excessive gaming include:
 - ✱ Mood changes, including irritability, anger, oppositional behavior, aggression and boredom
 - ✱ Depression, anxiety, and/or suicidality
 - ✱ Poor physical health such as obesity, sleeping disruptions, physical pain
 - ✱ Poor diet, causing weight gain or malnourishment, and/or caffeine overconsumption
 - ✱ Interpersonal problems, such as conflict with family
 - ✱ Loss of physical world friendships
 - ✱ Disruption in work and school attendance and productivity
 - ✱ Financial problems

It is also about developmentally important skills that one may NOT be doing

- Adolescents normally spend much of their time learning how to socialize, make friends, be part of a team and take on responsibility; one of the worst things excessive gaming is takes all these experiences away at the time when your brain is developing.
- Gamers do interact in online universes at times, but online connection does not activate the brain in the same way being in person does
 - It is also very possible that one is interacting with someone who is very different than represented



Validated Screening Tools

- ✱ The Internet Gaming Disorder Scale (Lemmens IGD-9 or IGD-27)
- ✱ IGDT-10 (Ten-Item Internet Gaming Disorder Test)
- ✱ Nine-Item Short-Form Scale to assess Internet Gaming Disorder (IGDS9-SF)
 - Compulsive behaviors (such as uncontrolled shopping, gambling, eating, and sexual urges)

	Never	Sometimes	Often
1. When you were not playing, how often have you fantasized about gaming, thought of previous gaming sessions, and/or anticipated the next game?	0	1	2
2. How often have you felt restless, irritable, anxious and/or sad when you were unable to play or played less than usual?	0	1	2
3. Have you ever in the past 12 months felt the need to play more often or played for longer periods to feel that you have played enough?	0	1	2
4. Have you ever in the past 12 months unsuccessfully tried to reduce the time spent on gaming?	0	1	2
5. Have you ever in the past 12 months played games rather than meet your friends or participate in hobbies and pastimes that you used to enjoy before?	0	1	2
6. Have you played a lot despite negative consequences (for instance losing sleep, not being able to do well in school or work, having arguments with your family or friends, and/or neglecting important duties)?	0	1	2
7. Have you tried to keep your family, friends or other important people from knowing how much you were gaming or have you lied to them regarding your gaming?	0	1	2
8. Have you played to relieve a negative mood (for instance helplessness, guilt, or anxiety)?	0	1	2
9. Have you risked or lost a significant relationship because of gaming?	0	1	2
10. Have you ever in the past 12 month jeopardized your school or work performance because of gaming?	0	1	2

IGD-10

- ☀ Score is from 0-9
- ☀ 5 and above is a cutoff for having high risk of IGD
- ☀ Answers of 0 or 1 are coded as 0
- ☀ Scores of 2 are coded as 1

DSMV Criteria

This condition is defined by 5 or more of the below 9 criteria within a year AND "significant impairment or distress" in several aspects of person's life

- ☀ Preoccupation with gaming
- ☀ Withdrawal symptoms when gaming is taken away or not possible (sadness, anxiety, irritability)
- ☀ Tolerance, the need to spend more time gaming to satisfy the urge
- ☀ Inability to reduce playing, unsuccessful attempts to quit gaming
- ☀ Giving up other activities, loss of interest in previously enjoyed activities due to gaming
- ☀ Continuing to game despite problems
- ☀ Deceiving family members or others about the amount of time spent on gaming
- ☀ The use of gaming to relieve negative moods, such as guilt or hopelessness
- ☀ Risk, having jeopardized or lost a job or relationship due to gaming
- ☀ *The condition can include gaming on the internet with others or alone.

“I am going to try this for 10 minutes”



Virtual Reality

- ✦ Potential for being a powerful healing tool
- ✦ Even more immersive
- ✦ Potential for impairing visual development in children
- ✦ Potential for depersonalization and dissociation

Neurologic Development of the Vision System



As reported per a patient. . .

- ✱ After some time using VR regularly, I began to notice a disturbing change in myself. Even when I take off the headset, I feel this eerie disconnection from reality. It's like I'm stuck in this perpetual state of dissociation, where I can't fully grasp what's real and what's not. It's unsettling, to say the least.
- ✱ I've tried everything I could think of to remedy this situation. I've taken breaks from VR, tried to engage in other activities, and looked for some comfort in the company of loved ones. Yet, this dissociation just won't go away. It's like I'm trapped in my own mind, struggling to find my way back to a sense of normalcy.
- ✱ It's been half a year now without me touching VR, I avoid it at all costs, and even conversations or news about this tech give me the chills. I also started therapy and I'm taking medication, but it doesn't seem to help much.

https://www.reddit.com/r/virtualreality/comments/15hxvxa/im_scared_and_dont_know_what_to_do_i_think_vr_may/

Treatment of IGD

☀ CBT

- The International Gambling Counselor Certification Board has partnered with "Intenta" to create an official certification for IGD
- <https://www.igccb.org/counselor-directory/>

☀ Bupropion ("off-label")

☀ Consider oral naltrexone ("off-label")

☀ Peer recovery programs- Game Quitters; Online Computer Gaming Anonymous

Disclosure Information

Behavioral Addictions: Not All Addictions are Substance Use Disorders!

April 5, 2024; 1:15 -2:30

Timothy Fong MD

◆ Research Support: Connections in Recovery



Gambling Trends in 2024

- ◆ Traditional Forms of Gambling
 - ◆ Sports Betting Explosion (38+states)
 - ◆ Casino gambling expanding
 - ◆ Internet Gambling Options – nearly unlimited
- ◆ Blurring lines between gaming and gambling
 - ◆ Social Casinos (gambling or gaming?)
 - ◆ In-App Purchases
 - ◆ Video Games
 - ◆ Loot Boxes
 - ◆ Financial Trading Software and Apps

DSM-5 Gambling Disorder

- ◆ Formerly known as:
pathological gambling, compulsive gambling,
problem gambling
- ◆ Formerly housed in Impulse Control Disorder (DSM-IV)
- ◆ Currently housed in Substance Related and Addictive Disorders (2013)
 - ◆ Supported by biopsychosocial research (1990-2010)

DSM-5 Gambling Disorder

A. Persistent and recurrent maladaptive gambling behavior as indicated by four (or more) of the following in a 12-month period:

Preoccupation

Tolerance

Chases

Can't stop

Lying

Withdrawal

Bailed Out

Lost opportunities

Gambles when
distressed

Prevalence (California)

n=7,121 respondents, 18 years and older

Lifetime:

Problem gambling	2.2%
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Pathological gambling	1.5%
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Past-Year:

Pathological Gambling	1.3%
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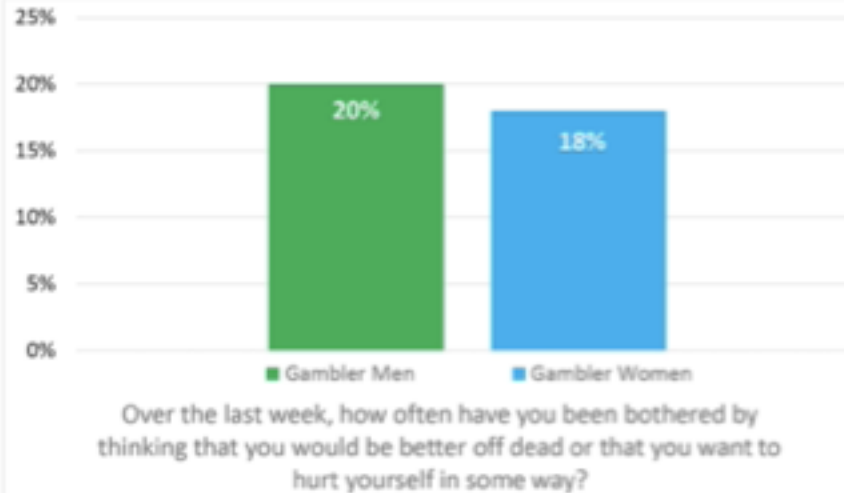
Highest Risk:

African-Americans, Disabled, Unemployed, Men

Consequences of Gambling Disorder: Suicide

CalGETS Fast Facts

Problem Gamblers' Depression and Suicidal Thinking is a Public Health Concern



Source – Outpatient Gamblers: CalGETS Fiscal Year 2019-20 dataset, prepared for the California Department of Public Health, Office of Problem Gambling by the University of California Los Angeles Gambling Studies Program. CA Depression: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data [online]. 2019. [accessed Jan 26, 2021]. URL: <https://www.cdc.gov/brfss/brfssprevalence/>. US Gambler Suicidal Ideation: Séguin, M., Boyer, R., Lesage, A., McGirr, A., Suissa, A., Tousignant, M., & Turecki, G. (2010). Suicide and gambling: psychopathology and treatment-seeking. *Psychology of Addictive Behaviors*, 24(3), 541. CA Suicidal Ideation: Grant, D., Caldwell, J., Padilla-Frausto, D. I., Aydin, M., & Aguilar-Gaxiola, S. (2012). More than half a million California adults seriously thought about suicide in the past year. Policy brief (UCLA Center for Health Policy Research). (PB2012-4). 1–8.

January 2021

Between July 1, 2019 and June 30, 2020, 606 problem gamblers entered CalGETS outpatient treatment.

At intake, 24% of these clients scored in the moderately severe to severe depression range as measured by the Patient Health Questionnaire (PHQ-9) compared to 15% of adult Californians reporting *any* depression diagnosis.

Among U.S. gamblers seeking treatment, between 20% and 40% report suicidal ideation and/or suicide attempts in the past year.

Among gamblers entering CalGETS outpatient treatment, 19% report suicidal thoughts in the *past week*, which is 10 times higher than adults in California reporting suicidal thoughts in the past year (1.8%).

If you or someone you know has a gambling problem, call 1-800-GAMBLER. ☉ National Suicide Prevention Lifeline, call 1-800-273-8255 (TALK).



Physical Consequences of Gambling Disorder

- ◆ Review of NESARC Data
 - Focus on older adults (55+)
- ◆ GD status was associated with elevated odds for incident arteriosclerosis and heart conditions.
 - Increased risk beyond established risk factors
 - Increased incidence of cardiovascular conditions among older adults with pathological gambling features in a prospective study

J Addict Med. 2013 Nov-Dec;7(6):387-93. doi: 10.1097/ADM.0b013e31829e9b36.

Pilver CE1, Potenza MN.



Physical Consequences of Gambling Disorder

- ◆ National Epidemiological Survey: (N=3412)
 - Prevalence 0.9% (n=31) for pathological gambling behavior and 2.5% (n=85) for problem gambling behavior
 - GDs were almost 3.5 times more likely to experience a sleep problem compared to individuals who did not have a gambling problem
- ◆ Community Survey: (N=120)
 - GDs experience significantly poorer sleep quality and increased daytime sleepiness relative to those that recreationally gamble.

Parhami, Iman, et al. "Pathological gambling, problem gambling and sleep complaints: An analysis of the National Comorbidity Survey: Replication (NCS-R)." *Journal of Gambling Studies* 29.2 (2013): 241-253.

Parhami, Iman, et al. "Sleep and gambling severity in a community sample of gamblers." *Journal of addictive diseases* 31.1 (2012): 67-79.



Screening Tools

Brief Biosocial Gambling Screen

(BBGS) *A “yes” answer to any of the questions means the person is at risk for developing a gambling problem.*

- | | | |
|--|---------------------------------|--------------------------------|
| 1. During the past 12 months, have you become restless, irritable or anxious when trying to stop/cut down on gambling? | YES
<input type="checkbox"/> | NO
<input type="checkbox"/> |
| 2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled? | YES
<input type="checkbox"/> | NO
<input type="checkbox"/> |
| 3. During the past 12 months did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare? | YES
<input type="checkbox"/> | NO
<input type="checkbox"/> |



NATIONAL CENTER FOR RESPONSIBLE GAMING

www.ncrg.org

www.divisiononaddiction.org



Treatment Approaches

- ◆ Medications (No FDA-Approved)
- ◆ Brief Interventions
 - Helplines, Self-Help Workbooks,
- ◆ Psychotherapy
 - CBT, MI, Psychodynamic, Supportive
- ◆ Gambler's Anonymous
- ◆ Intensive Outpatient and Residential Treatment Programs



Petry, N. M., Ginley, M. K., & Rash, C. J. (2017). A systematic review of treatments for problem gambling. *Psychology of Addictive Behaviors*, 31(8), 951.

Medication Approaches

◆ Strongest Research Evidence for:

- Naltrexone
 - ◆ PO, not IM
- Nalmefene
- Lithium (BP Spectrum)

“Pharmacological treatments in pathological gambling” (British Journal of Clinical Pharmacology 2014)

Gambling-Specific Treatments

- ◆ Blocking software / apps (GamBan)
- ◆ Self-Exclusion Programs
 - ◆ Brick / Mortar and Online
- ◆ Financial literacy / debt management
- ◆ “If gambling is 24/7, then treatment should be 24/7”
- ◆ Gambling Helplines
 - ◆ 1-800-GAMBLER

Gambling Summary

- ✱ Gambling disorder is hidden and more common than suspected
- ✱ Screening and asking questions about gambling behavior should be standard of care
- ✱ Most cases do not present for treatment until consequences are severe
- ✱ Treatment strategies work, alignment with addiction and mental health best practices
 - Get to know your state's gambling treatment resources

uclagamblingprogram.org

UCLA GAMBLING STUDIES PROGRAM

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The Hot New Form Of Fantasy Sports Is Probably Addictive, Potentially Illegal And Completely Unregulated

Dr. Fong discusses the rise of paid fantasy sports
Sacha Farman and Josh Israel interview Dr. Timothy Fong for an article on fantasy sports betting for Think Progress

Contact Us
Map and Directions
Learn More

Freedom from Problem Gambling

The UCLA Gambling Studies Program (UGSP) is a non-profit organization within the Department of Psychiatry and Biobehavioral Sciences at the University of California, Los Angeles. Our mission is to reduce the individual, familial, and societal harm caused by pathological gambling. Since 2005, we have been engaged in conducting research, providing cost-effective prevention and treatment services, and offering education and training opportunities to healthcare providers and the community at large.

Research	Treatment	Education
UGSP is committed to the advancement of research. We use a wide range of research methods to continually investigate the biological, psychological, and	UGSP has a number of outpatient treatment options available for problem gamblers and their families. Our team of experts understand and treat problematic	UGSP provides educational and training opportunities for mental health providers across Southern California. We also welcome local and international volunteers,

Contact Information

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Final Takeaways

- ★ There is clear evidence supporting the neurobiology of behavioral addictions in terms of abnormal function in the dopamine system
- ★ There are no FDA-approved medication for the treatment of any behavioral addiction, but "off-label" evidence supports consideration of oral naltrexone (gambling disorder and CSBD), bupropion (IGD) and semaglutide (food addiction)
- ★ Specific screening tools exist for identification of IGD (IGD-10), Gambling Disorder and CSBD
- ★ ICD-11 does contain expanded codes for behavioral addictions including:
 - Compulsive Sexual Behavioral Disorder
 - Gaming Disorder
 - Gambling Disorder

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