

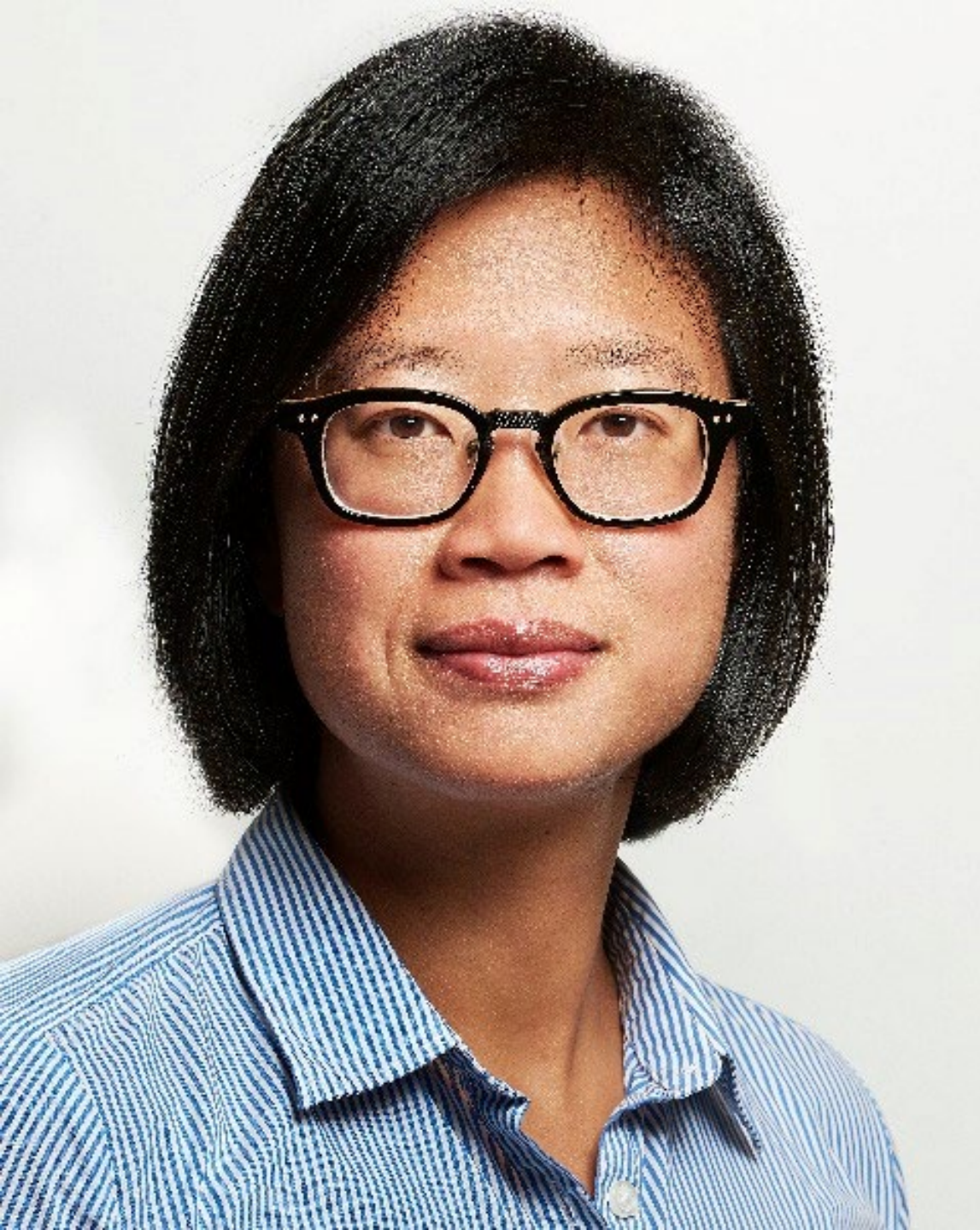


ASAM REVIEW COURSE 2023

Behavioral Addiction: Criteria, Challenges and Considerations

Faye Chao, MD
Assistant Professor, Department of Psychiatry
Icahn School of Medicine at Mount Sinai
New York, NY





Financial Disclosure

Faye Chao, MD

- No relevant disclosures

LEARNING OBJECTIVE

Describe the theoretical framework for behavioral addiction, criteria for diagnosis and evidence-based treatment strategies.

Presentation Outline

- History
- Impulsivity/Compulsivity Spectrum
- Gambling Disorder
- Internet Gaming Disorder

History

- Classified as:
 - Obsessive-compulsive spectrum disorders
 - Impulse-control disorders
 - By-products of mood disorders
 - Now: substance-related and addictive disorder

DSM-5

- Substance-related and Addictive Disorders
 - Gambling disorder
- Conditions for Further Study
 - Internet gaming disorder
- Not included at all (“insufficient evidence”)
 - Other internet or technology-related behaviors (social media, TV, etc.)
 - Sex, exercise, shopping, food, etc.



Essential Features

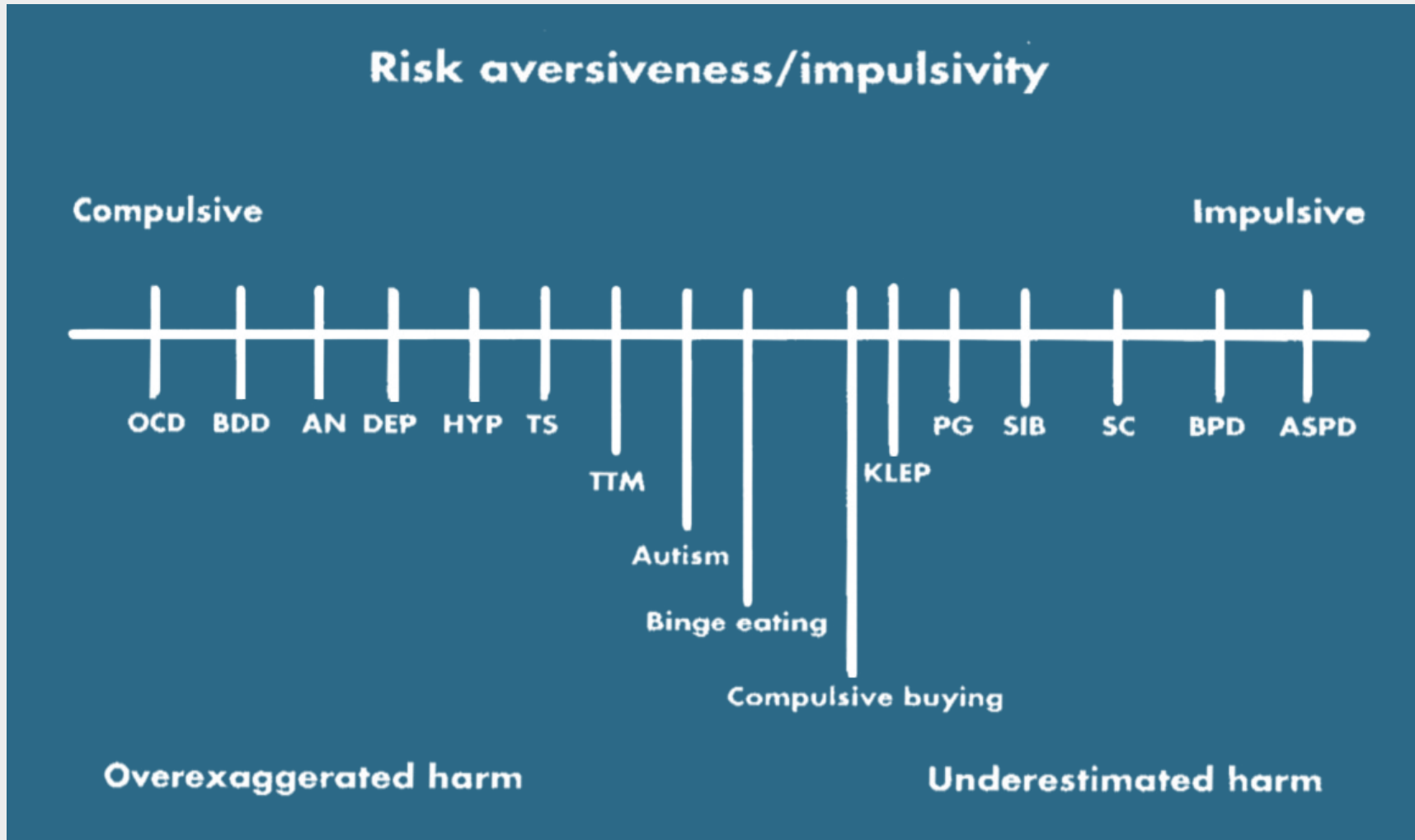
- Failure to resist an . . .
 - impulse
 - drive
 - temptation

. . . to perform an act that is harmful to oneself or others.

Impulsivity vs. Compulsivity

- Both show inability to refrain from repetitive behaviors.
- Impulsivity is driven by an effort to obtain arousal and gratification.
- Compulsivity is driven by an effort to reduce anxiety.

Dimensional Approach



Adapted from: Hollander E, *Clinical Manual of Impulse-Control Disorders*, 2006.

Compulsive End

- OCD
- Body Dysmorphic Disorder
- Anorexia Nervosa
- Depersonalization Disorder
- Hypochondriasis
- Tourette's Syndrome
- Trichotillomania
- Autism

- Binge Eating
- Compulsive Buying
- Kleptomania
- Pathological Gambling
- Self-Injurious Behaviors
- Sexual Compulsions
- Borderline Personality Disorder
- Antisocial Personality Disorder

Impulsive End

Gender Differences

Women

- Anorexia
- Binge Eating
- Kleptomania
- Compulsive Buying
- Trichotillomania

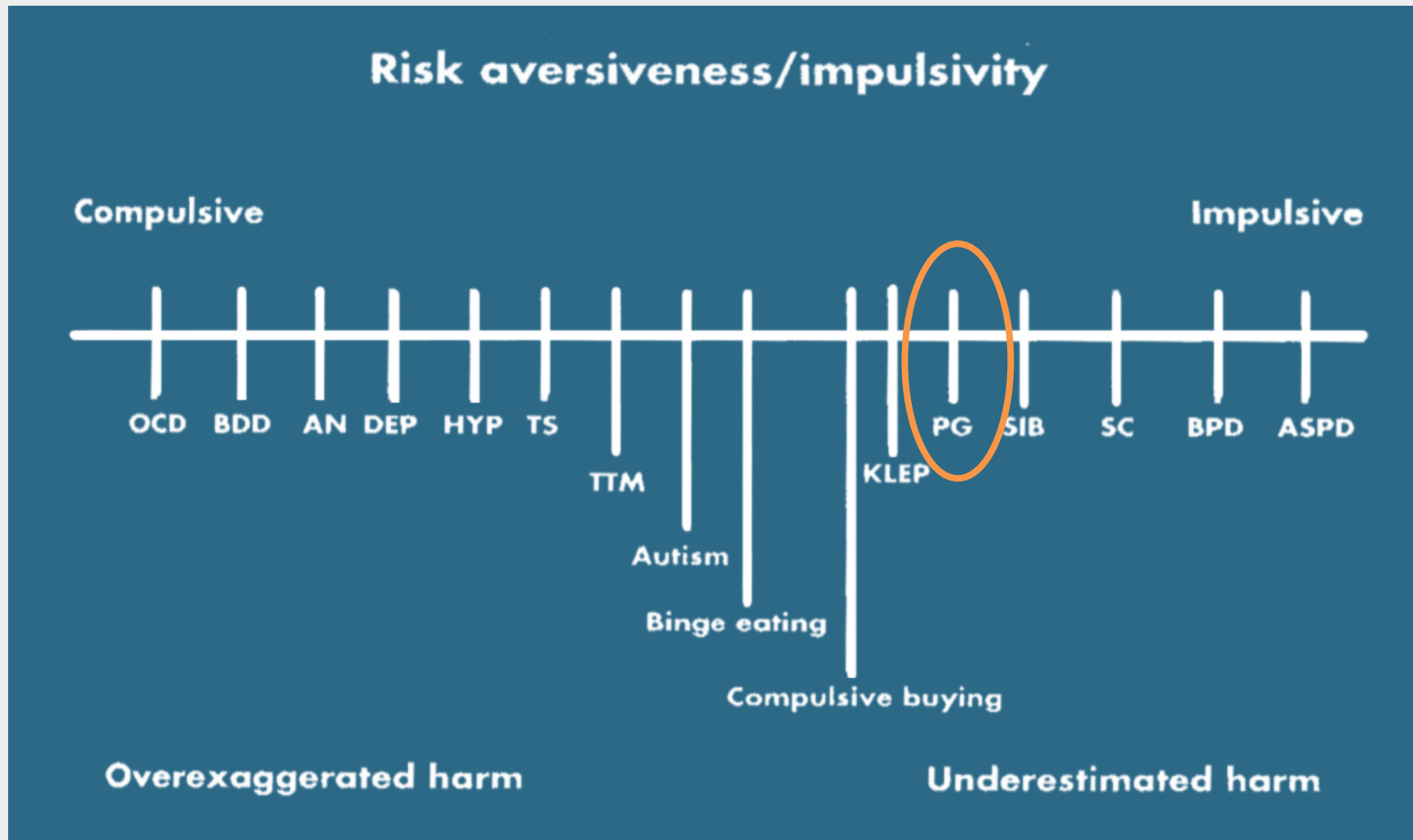
Men

- Body Dysmorphic
- Sexual Compulsion
- Pyromania
- Gambling
- Problematic gaming

Gambling Disorder



Gambling Disorder



Gambling Disorder

DSM-IV-TR

Pathological Gambling

as

Impulse-Control
Disorder



DSM-5

Gambling Disorder

as

Substance-Related and
Addictive Disorder

Substance-Related and Addictive Disorder

Alcohol

Caffeine

Cannabis

Hallucinogen

Inhalant

Opioid

Sedative

Stimulant

Tobacco

**Gambling
Disorder**



Clinical Presentation for GD

- *Five DSM-5 Addiction Criteria*

Plus

- “Chases” one’s losses
- Lies to conceal the extent of their gambling
- Relies on others for money
- Gambles when feeling distressed
(Specifiers: episodic or persistent)

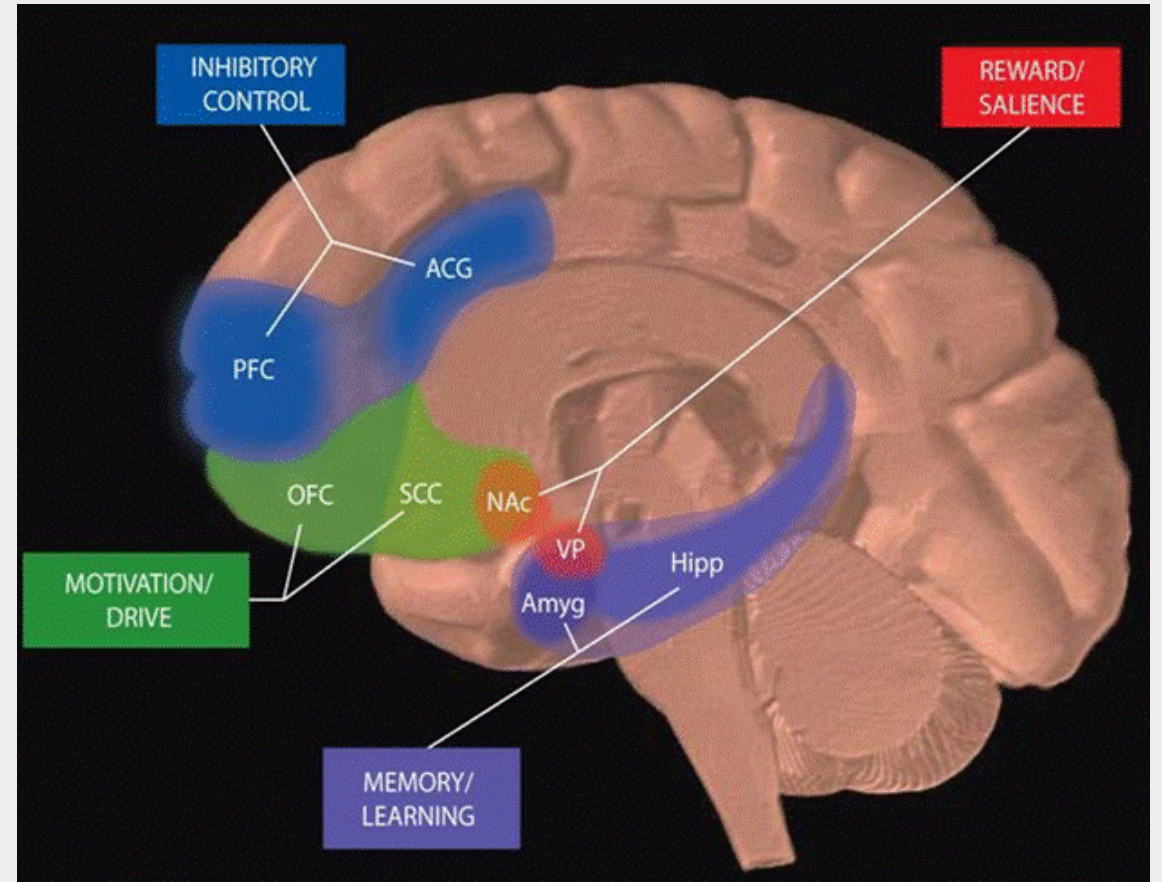
Phases

- Winning Phase
- Loss Phase
- Desperation Phase
- Hopelessness Phase

Blanco C, Cohen O, Luján JJ, et al: Pathological gambling and substance use disorders, in Substance Dependence and Co-Occurring Psychiatric Disorders: Best Practices for Diagnosis and Treatment. Edited by Nunes EV, Selzer J, Levounis P, Davies CA. New York, Civic Research Institute, 2010

Neurobiology of GD

- Gambling affects:
 - DA
 - NE
 - Cortisol
 - 5HT
- Neurobiological similarities with substance use disorders



Epidemiology

- US Gambling Statistics:
 - \$73 billion/year casino gaming revenue
 - 82% of US residents gamble
 - 1% - 2% meet criteria for PG
- Problematic Gamblers:
 - \$40,000 average individual debt
 - 25 hours/week average time spent



The decline of casino slots and the rise of online

theleader.info

By @leadernewspaper - 10/08/2019



The decline of casino slots and the rise of online

For many years the mental image conjured up by the word 'casino' was made up of one of two things. It was either gaming tables surrounded by people rolling dice, holding playing cards or placing bets on a roulette wheel, or it was row upon row of flashing slot machines.

State forecasts dip, stagnation of casino tax aid

Projections show state will no longer be able to count on more money from slots, table game for schools

By Lauren Stanforth Published 12:32 pm EDT, Wednesday, March 13, 2019



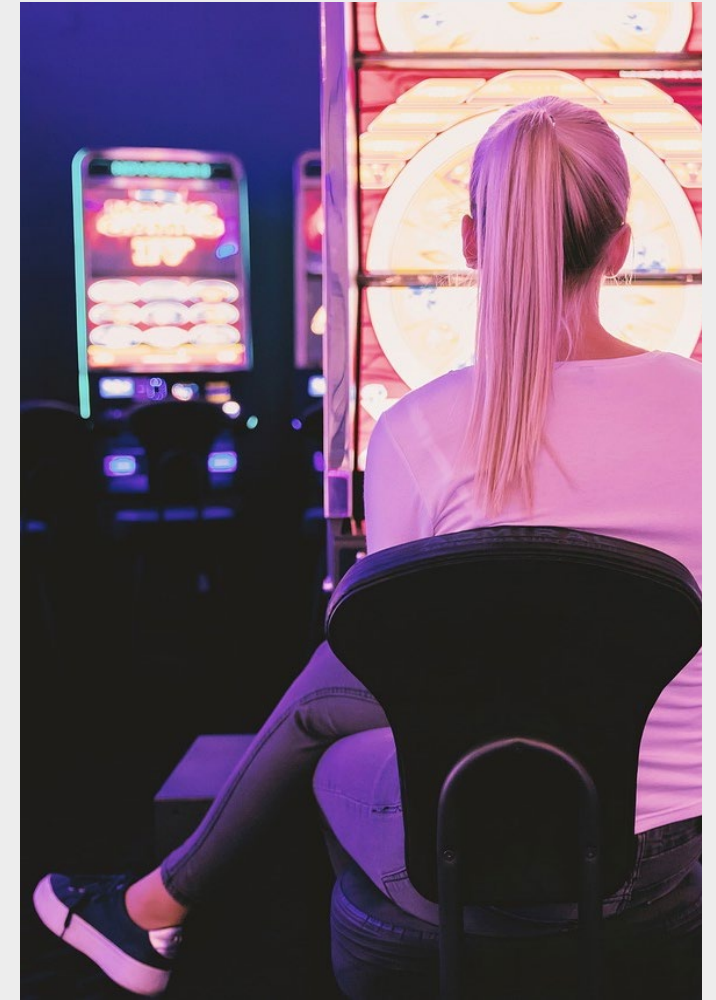
What's Available in Your State?



- Opportunities in US:
 - Land-based casinos
 - Internet gambling
 - Nonregulated gambling
 - Online fantasy sports
- More available and accessible now than ever before

Screening Tools

- The Lie/Bet Test
 - Have you ever felt the need to bet more and more money?
 - Have you ever had to lie to people important to you about how much you gambled?
 - *99% sensitivity, 91% specificity*



Johnson EE, Hamer R, Nora RM, et al: The lie/bet questionnaire for screening pathological gamblers. *Psychological Reports* 80:83-88, 1997.

Gambling Cognitive Distortions

The Odds are Never in Your Favor

- “The house always wins”
- House edge is the ratio of the average loss to the initial bet, essentially the average gross profit the casino expects to make from each game
 - Keno – house edge 25-29%
 - Any craps – 11.11%
 - Ultimate Texas Hold ‘Em – 2.19%
 - Blackjack (liberal Vegas rules) – 0.28%
- The longer you play, the greater the odds are that the result of your play will match up with the house edge



Interpretative Biases



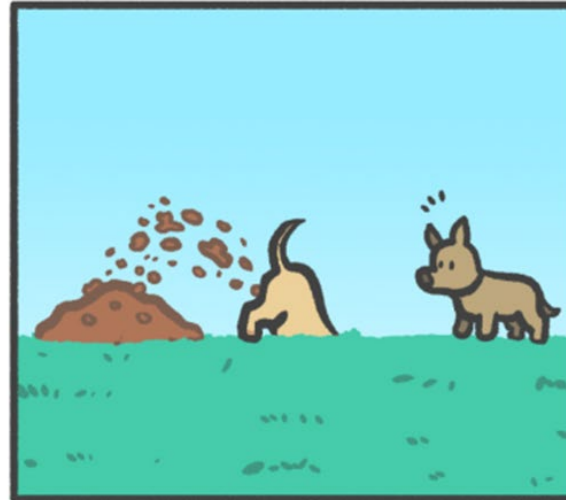
- Attributing wins to skill, losses to flukes
- Wrongly believing that a series of losses increases the chance of subsequent win
- Near misses (“*I was only one number away!*”)
- The “Sunk-Cost” effect

B.E. FOR DOGS:

SUNK COST EFFECT

Duke
UNIVERSITY

CENTER FOR
ADVANCED
HINDSIGHT



BERMAN, FOEHL, TROWER 2017

Superstitious Beliefs

- Believing in:
 - Good luck objects (like animal parts)
 - Behaviors
 - Routines



Gaboury A, Ladouceur R: Erroneous perceptions and gambling. Journal of Social Behaviors and Personality 4:411-420, 1989.

Selective Memory



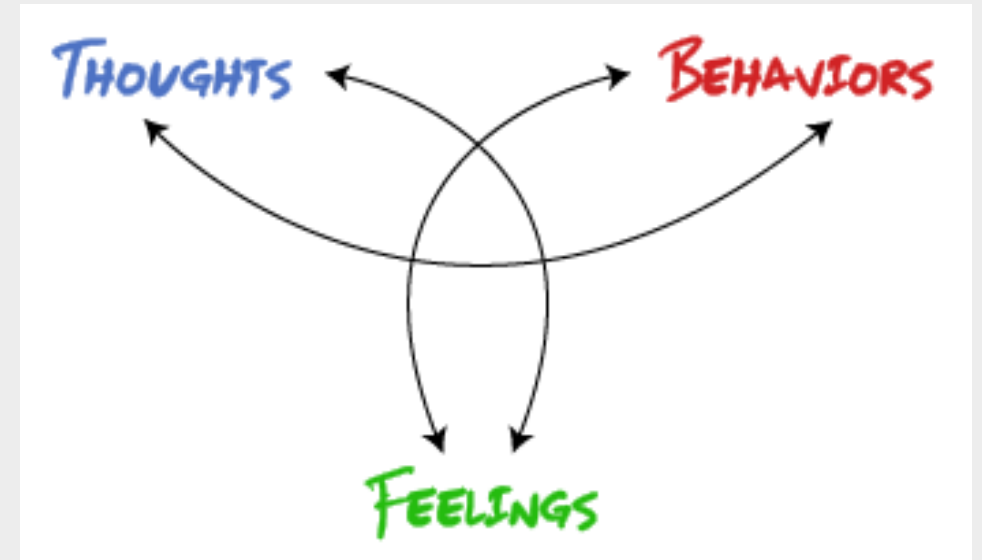
- Remembering wins while ignoring losses
- Totaling wins without correcting for amounts lost

Telescoping

- Temporal:
 - Expecting that naturally occurring—that is, probabilistically expected—wins will happen sooner rather than later.

Treatment

- Behavior therapy, cognitive behavioral therapy, family therapy
- Opioid antagonists, SSRIs
- Mutual-help groups (Gamblers Anonymous)



Treatment: GD as an Impulsive Disorder

- Opioid Antagonists
 - Naltrexone and Nalmefene
 - Block opioid receptors, decrease dopamine function, and reduce “reward cravings”



Treatment: GD as an Impulsive Disorder

- Reductions in gambling outcomes and urges to gamble with daily naltrexone
- Results for “as-needed” use of naltrexone more mixed
- Naltrexone 50 mg PO daily seems to be as effective as higher doses though some studies dose up to 250 mg PO daily
- Appears to work best in patients with either a personal or family history of alcohol use disorder

Grant JE, Kim SW, Hollander E, et al: Predicting treatment response to opiate antagonists and placebo in the treatment of pathological gambling. Psychopharmacol 200:521-527, 2008.

Grant JE, Potenza MN: Pathological Gambling: A Clinical Guide to Treatment. Washington, DC, American Psychiatric Publishing, 2004.

Ward S, Smith N, Bowden-Jones H: The use of naltrexone in pathological and problem gambling: A UK case series. J of Behav Addictions 7(3): 827-833, 2018

Treatment: GD as a Compulsive Disorder



- Selective Serotonin Reuptake Inhibitors
 - Frequently investigated for compulsive disorders (e.g. OCD, hoarding, trichotillomania)
 - Block serotonin reuptake, increase serotonin function, used for treatment of mood and anxiety disorders

Treatment: GD as a Compulsive Disorder

- Fluvoxamine, paroxetine, escitalopram most studied
- Unclear if they help decrease urges but may reduce “self-medication” behavior
- May require higher-than-usual doses
- Work best with co-occurring depression or anxiety



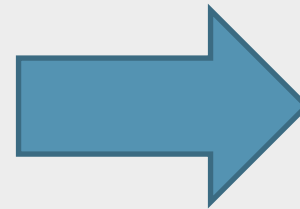


Internet Gaming Disorder

The Evolution of IGD

DSM-IV-TR

Not Found



DSM-5

Conditions for
Further Study

Proposed Criteria

- Seven DSM-5 Addiction Criteria, plus
 - Has deceived family, therapists or others about the amount of gaming
 - Uses games to escape/relieve negative mood
 - *(Excludes Internet gambling, recreational/social Internet use, sexual websites)*



ICD-11 Criteria

- A pattern of persistent or recurrent gaming behavior (‘digital gaming’ or ‘video-gaming’), which may be online (i.e., over the internet) or offline, manifested by:
 - 1) impaired control over gaming (e.g., onset, frequency, intensity, duration, termination, context)
 - 2) increasing priority given to gaming to the extent that gaming takes precedence over other life interests and daily activities
 - 3) continuation or escalation of gaming despite the occurrence of negative consequences.
 - The behavior pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning.
- Modifiers are “predominantly online” and “predominantly offline.”

Who's Playing?

- ESA (Entertainment Software Association) 2021 survey
 - 226.6 million Americans play video games
 - 77% of gamers play with others online or in person at least weekly (up from 65% in 2020)
 - 77% play for 3+ hours a week



2021 Essential Facts about the Computer and Video Game Industry. Entertainment Software Association. <https://www.theesa.com/>. Published July 2021. Accessed April 15, 2022.

The Average Player

- Is white (73%)
- May be of either gender
 - Gender breakdown: 55% identify as male, 45% identify as female
- Is age 31
 - 80% of players are over 18 years old
 - In 2021, 28% of those who play video games are over the age of 45.



Clinical Presentation of IGD

- Has more to do with life impact than amount of time played (though this is controversial)
- Often, but not always, occurs in patients with other co-morbidities (especially SUDs and mood disorders)
- Prevalence: Global prevalence appears to be ~2-3% and males 2.5 times as likely to be diagnosed
 - More common in Asian countries esp. China, Taiwan, South Korea. However...



Problematic Play

- Risk factors include:
 - Personality traits (neuroticism, aggression and hostility, and sensation seeking)
 - Motivations for play (escapism, control, avoiding dissatisfaction)
 - Structural game characteristics (online games, ability to customize virtual game persona, game reinforcement structure).
 - MMORPGs a particular area of interest



Imaging Studies

- Internet gaming addicts showed lower resting state functional connectivity between VTA and mOFC (Han 2018)
- Several studies show increased activity in the ACC and mOFC in response to gaming cues in subjects with gaming disorder (Han 2010, Ko 2009)
- Altered gray matter volume in patients with gaming disorder

Han, DH, et al. Bupropion sustained release treatment decreases craving for video games and cue-induced brain activity in patients with Internet video game addiction. Exp Clin Psychopharmacol. 2010 Aug;18(4):297-304.

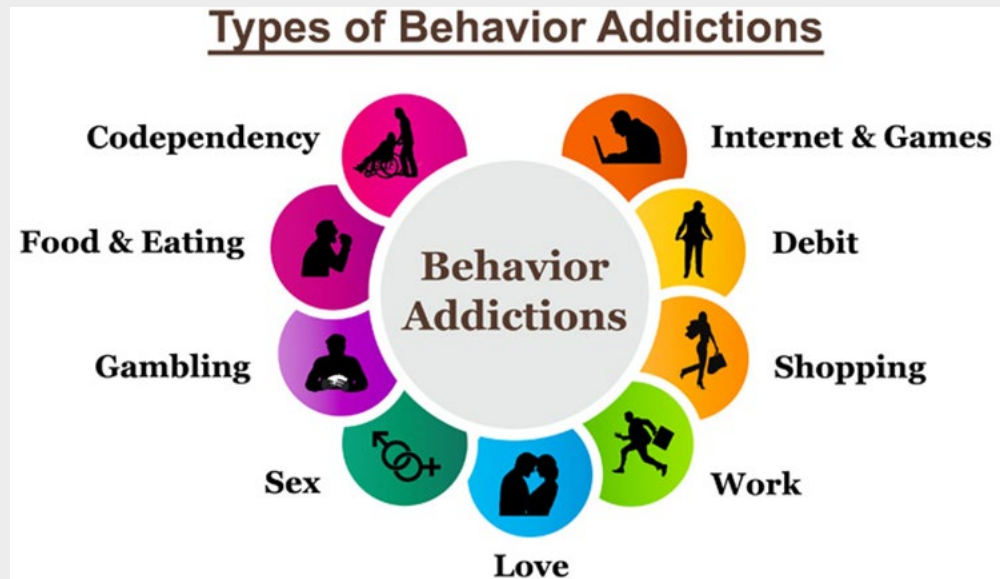
Han, DH, et al. Changes in cue-induced, prefrontal cortex activity with video-game play. Cyberpsychol Behav Soc Netw. 2010 Dec;13(6):655-61

Ko, CH, et. al. Brain activities associated with gaming urge of online gaming addiction. J Psychiatr Res. 2009 Apr;43(7):739-47

Treatment

- Therapy modalities consist mainly of CBT, behavior therapy, and 12-Step approaches
- Psychopharmacologic management is off-label and has poor to middling evidence base for efficacy
 - Potential agents mainly selected from the same medications that are researched for SUDs
- Treatment centers initially arose in Asia and then Europe but now exist in North America as well


In Summary



- Behavioral addictions fall within an impulsivity-compulsivity spectrum of illness.
- DSM-5 only recognizes one disorder officially though one other is included as a condition for further study.
- Psychosocial treatments work.
- Medications have fallen short so far.



Get in Touch

 301.656.3920

 education@asam.org

 www.asam.org