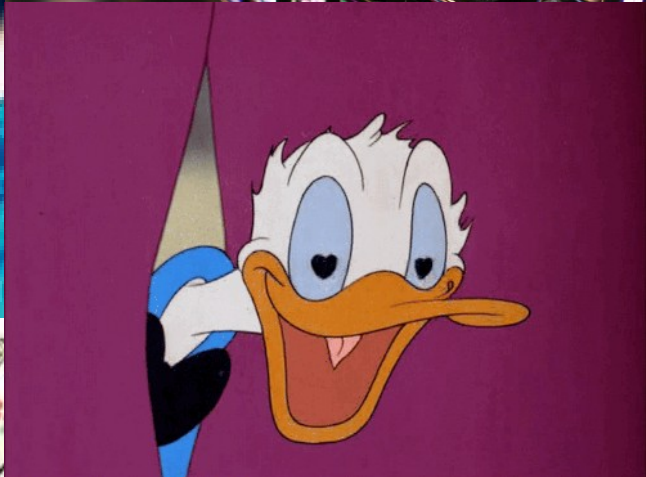


ADDICTION

BEHAVIOURAL ADDICTIONS – INTRO & PATHOLOGICAL GAMBLING

Behaviours that:

- Have a potential to produce short-term reward
- Individuals tend to engage these behaviours repetitively and with diminished control
- With persistent pattern of engagement in these behaviours it leads to problems and conflicts over time
- Behaviours that have similar symptoms as substance addictions (in Griffiths' model salience, euphoria, tolerance, conflicts, relapse & reinstatement. Questionable presence of withdrawal symptoms).



Similarities with substance addiction

- Both have similar course: they start as ego-syntonic and slowly develop into ego-dystonic (love-hate relationship with the subject of addiction). Ego-syntonic = in harmony with ego (its values, goals, needs) ego-dystonic = opposite to one's needs, values, self. Ego-syntonic nature of these behaviours is the reason why we do not label them as obsessive-compulsive disorders.
- High mutual cooccurrence – gamblers often show pathological use of alcohol, nicotine, or even amphetamines. Pathological gamblers have several times higher chance of being diagnosed as addicts to some substance. Cooccurrence of behavioural addiction and substance addiction predicts increased severity of each
- Similar personality profiles – males of younger age are more susceptible. Increased impulsivity, sensation-seeking, ADHD and decreased harm avoidance (internet based addictions are exception – harm avoidance is increased). Increased comorbidity with depressive symptoms

Similarities with substance addiction

- Similar cognitive deficits - e.g. cues related to addiction are processed faster. Cue-association found in the same brain areas
- Alteration in functioning of mesolimbic dopamine pathways reported – both substance and behavioural addictions are primarily disorder of motivation and learning
- Parkinson patients treated by dopamine agonists found (in some cases) to develop behavioural addictions like
- Reward deficiency syndrome (gene-based decreased number of dopamine D2 receptors) found also in gamblers
- Behavioural component is very strong also in substance addictions
- Similar responsiveness to treatment - in most cases, even substance use treatment targets the behavioural/cognitive/psychological component of addiction. No medication for behavioural addictions yet, but promising results in use of opioid antagonists used for alcohol and opioid addictions.

But it may just not exist because

- We know too little. 1) evidence comes mostly from gambling studies- are there any other behavioural addictions at all? 2) no animal studies 3) only few and short longitudinal studies 4) very limited family and genetic studies
- Normativity issue – is behavioural addiction just a new label for bad behaviour? Aren't we over-pathologizing certain behaviours? Aren't we spreading unnecessary panic?
- Problems with tolerance and especially withdrawal symptoms – behavioural and substance addiction may be less similar than we think. However, all research in this field was done through optics of substance addictions and thus may be biased from the beginning

diagnostics

- Gambling included in DSM-IV and ICD10 under umbrella of Impulse Control Disorders = disorders characterized by failure in temptation (e.g. kleptomania, pyromania,...). Other potential behavioural addictions could be diagnosed as “impulse control disorder unspecified/other”
- DSM-5 (2013) included gambling as addiction. Internet gaming disorder included only as experimental diagnosis
- ICD11 (2018) included both gambling and gaming plus “other”
- Other behavioural addictions rely on survey questionnaires – we do not have sufficient data even for gaming.

GAMBLING



gambling

- Popular entertainment from the beginning of mankind
- “a game o chance”
- Games differ in speed (tempo); size of bet, prize structure; frequency of win/reward; role of skill
- Games of pure chance: lottery, slot-machines
- Games of skill: sport betting, poker

Pathological gambling in ICD 11

- Gambling disorder is characterized by a pattern of persistent or recurrent gambling behaviour, which may be online (i.e., over the internet) or offline, manifested by:
 - 1) impaired control over gambling (e.g., onset, frequency, intensity, duration, termination, context)
 - 2) increasing priority given to gambling to the extent that gambling takes precedence over other life interests and daily activities
 - 3) continuation or escalation of gambling despite the occurrence of negative consequences. The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning.
- The pattern of gambling behaviour may be continuous or episodic and recurrent. The gambling behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.
- Exclusion criteria: bipolar disorder

DSM-5 Diagnostic Criteria: Gambling Disorder

** For informational purposes only **

- A. Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress, as indicated by the individual exhibiting four (or more) of the following in a 12-month period:
 - a. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
 - b. Is restless or irritable when attempting to cut down or stop gambling.
 - c. Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
 - d. Is often preoccupied with gambling (e.g., having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble).
 - e. Often gambles when feeling distressed (e.g., helpless, guilty, anxious, depressed).
 - f. After losing money gambling, often returns another day to get even (“chasing” one’s losses).
 - g. Lies to conceal the extent of involvement with gambling.
 - h. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
 - i. Relies on others to provide money to relieve desperate financial situations caused by gambling.
- B. The gambling behavior is not better explained by a manic episode.

Mild: 4–5 criteria met.

Moderate: 6–7 criteria met.

Severe: 8–9 criteria met.

From the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (section 312.31).

pathological gambling prevalence

- Prevalence varies in European countries between 0.5-2% (more in Finland 3%)
- Prevalence is several times higher in adolescents – up to 12%
- Huge differences between countries even of similar cultural background suggest strong influence of legal status of gambling (availability)

Risk factors – social & demographic

- Age – usually starts and peaks in older adolescents. Exposure in this age correlates with severity in adulthood
- Gender – males gamble more often and face more severe pathology. Males prefer skill games (betting, poker), females prefer slot machines (for dissociation).
- Social economical status – lower SES correlates with gambling
- Accessibility – close proximity to gambling places highly increases likelihood of the behaviour
- <https://www.youtube.com/watch?v=1W2HqF4x8Bc>
- Marital status – singles are more at risk
- Family background – living in one parent family or
- Social modelling – positive attitudes towards gambling in family or peer group
- Experience – winning large sum at the beginning of gambling career predicts more persistent and stronger pattern of behaviour

Risk factors – psychological & psychiatric

- Depressiveness – 50% of gamblers have lifetime mood disorder. Gambling usually precedes depression
- Anxiety – up to 40% of gamblers have lifetime anxiety disorder or obsessive-compulsive disorder
- Substance use – majority use alcohol, up to 40% use other (illegal) drugs. Substance abuse increases risk of relapse, overall pathology, suicidality
- Early childhood trauma – emotional up to 60%; physical 40%; sexual 20%. Presence of trauma correlates with severity of pathology. Abuse was significantly more common condition for women.
- Sensation seeking – under-aroused, prone to boredom, hypomanic

Risk factors – irrational cognition

- Illusion of control – superstition tendency, believe in skill is often magnified (too high self-confidence).
<https://www.youtube.com/watch?v=l0xOoyMeSF8>
- Recall bias - wins are overestimated in their strength and frequency while losses are underestimated and forgotten
- Gamblers fallacy – believe that even totally random events are influenced by past events. *If something happens more frequently now, it is going to happen less frequently in future*
- Near miss phenomenon - a failure that is felt to be close to win and thus raising hope for future success. Gives wrong information and produces excitement. Produces illusion of control even in pure games of chance. *It would be foolish to stop when I am so close...*
<https://www.youtube.com/watch?v=uAZu0coArhI>
- <https://www.youtube.com/watch?v=6NZuyfpQTms>

Negative effects

- Crime – majority of pathological gamblers have some experience with theft, fraud, robbery, assault & blackmail
- Bankruptcy and other financial issues
- Deterioration of family situation
- Suicide – some suicidal intention in almost half of pathological gamblers
- Very high comorbidity with substance use – especially alcohol, nicotine, amphetamines – increase all health risks typical for those substances

Pathway – antisocial impulsivist

- Predominantly males
- Highest severity of pathology
- Common personality disorders, substance abuse, suicidality, criminality, low frustration tolerance, higher impulsivity and attention deficits
- Under-stimulated – tendency to experience boredom

Pathway – emotionally vulnerable

- Higher rates of emotional difficulties, anxieties, depressiveness
- Gambling to cope with negative emotions, escape from life troubles (overstimulated)
- Lower rates of criminal activity compared to antisocial impulsivits
- More typical for female gamblers

- Telescopic effect -women start later in life but pathology develops in shorter time.
- However women tend to seek treatment more quickly than men

Pathway – behaviourally conditioned

- Irrational beliefs, poor decision making
- Lower psychological, psychiatric conditions compared to other groups
- Lower severity of pathology – so called sub-pathological population population
- Probably the largest group

Gambling online

- casinos (roulette, slot machines)
- poker
- sport betting & live betting
- lotteries, bingo
- skilful gaming (mah-jong, chess, knowledge games)

- Even regular computer games include more and more gambling features

Gambling online

- Even when legal and thus accessible – increase in prevalence of gambling is rather small in general population
- However increase in adolescents who are not allowed to gamble otherwise – online gambling may serve as a gateway for regular gambling or may develop to pathology itself
- Attractive for males, younger, with above average income BUT pathological online gamblers have rather below average income

Gambling online

Pathological offline and online gambling are not necessarily related

- For some online gambling is only a momentary activity when (preferred) offline gambling is not accessible
- Both offline and online venues attract different personalities
- Lower related risks – lower exposure to substance use and criminal environment

Gambling online

Online gambling is potentially riskier because

- Accessible anytime anywhere
- Lower social control when on computer – what one does may not be transparent for long time.
- Anonymity on the internet
- Significantly lower age of most online gamblers
- Online casinos use strategies like *training rooms, play for free* etc. – online gambler may be pre-conditioned even before regular gambling starts
- Electronic money not as real as real money
- Higher illusion of skills involved