Games, Sex and Social Media: Current Perspectives

Sara J. Polley, MD, FAPA, FASAM (she/her/hers)
Emily Brunner, MD, DFASAM
Shane W. Krause, PhD (he/him/his)
Non-Presenting: Marc N. Potenza, MD, PhD

ASAM Annual Conference April 24-27, 2025

Disclosure Information

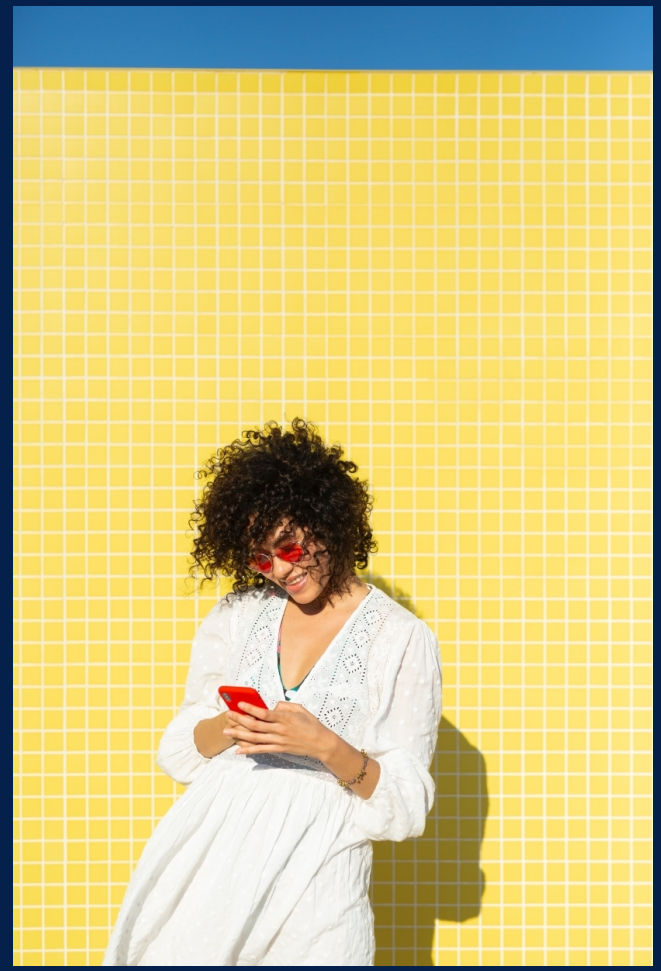
- Presenter 1: Sara J. Polley, MD, FAPA, FASAM
  - No disclosures
- Presenter 2: Emily Brunner, MD, DFASAM
  - No disclosures
- Presenter 3: Shane W. Krause, PhD
  - No disclosures

Learning Objectives

- Define and differentiate technology-associated behavioral addictions.
- Understand the neurobiological and psychological impact of these illnesses.
- Identify effective treatment approaches.
- Apply knowledge in a professional setting.

Audience Participation

1. Raise your hand if you have a phone or internet connected device with you.
2. Place the device inside of a zipped pocket or out of site. Power device down if you are feeling brave (and are not on call).
3. See if you can keep your device off for the duration of the presentation.



Technology is Life

American adults check their smartphone on average 96 times per day, once every 10 minutes

We look at screens for over 8 hours a day on average.

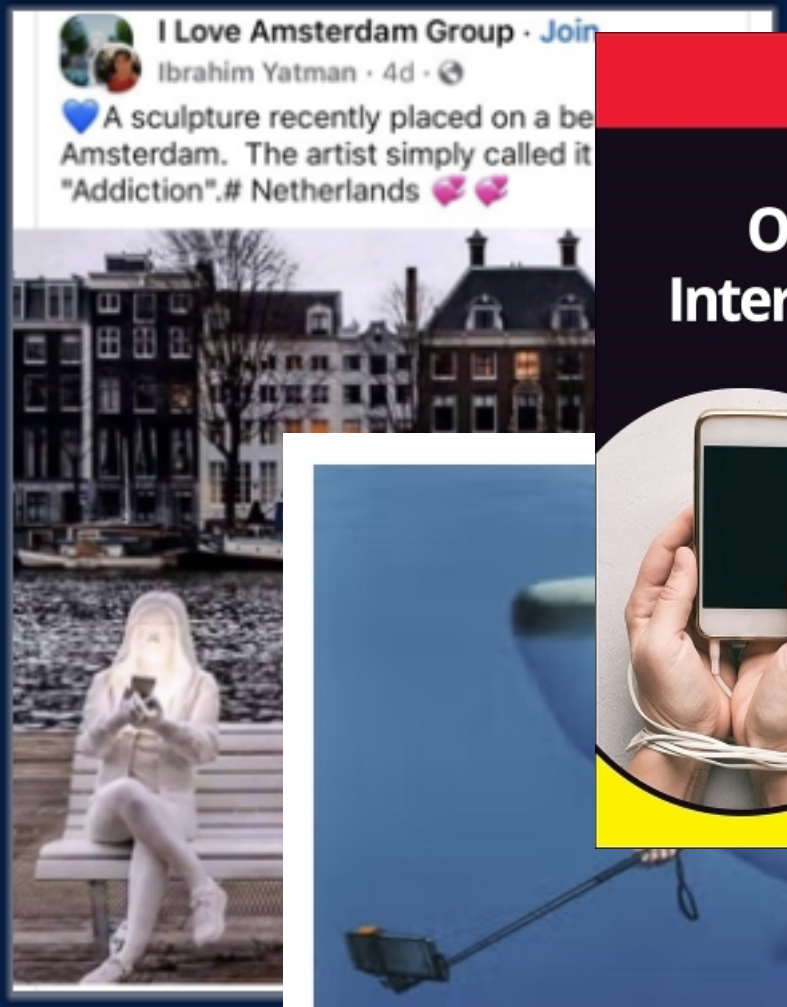
Image: Rogers, R. (2023, November 29). Editorial Cartoon: Artificial intelligence.

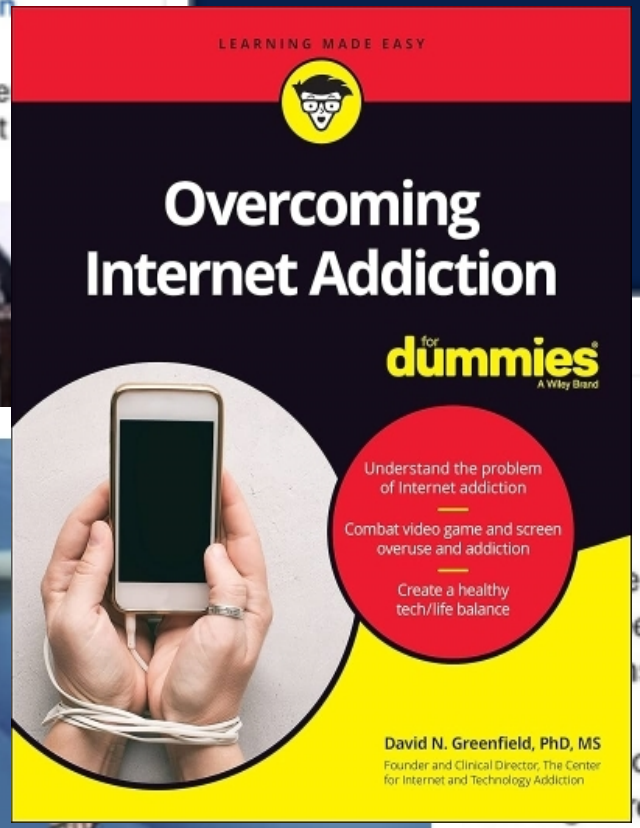
https://www.zippia.com/advice/smartphone-usage-statistics/
https://backlinko.com/screen-time-statistics

Technology is Progress

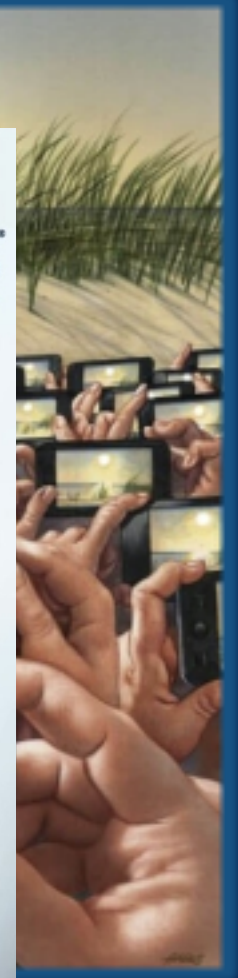
1. Gaming
2. Entertainment , Music
3. Knowledge dissemination
4. Remote schooling
5. Televideo healthcare
6. Remote work options

1. Connecting with family relatives
2. Entertaining children on trips
3. Exposure to Cultures
4. AI Assistance
5. Safety of location tracking, mobile maps





SOURCE: PINTEREST



What About a Dumb Phone?

App blocked mobile internet for 2 weeks:

- ✓ 70% of participants reported improvement in either subjective wellbeing and or mental health.
- ✓ Those with highest levels of FoMo pre-intervention improved the most.

Mediated by increases in other healthy activities, increased hours of sleep, and objectively improved attention and impulse control.

Castelo et al. 2025

Behavioral Addictions: Where Are We Now?

2013 DSM 5 included gambling disorder, identified internet gaming disorder as a condition of interest.

2019 WHO adopted ICD-11 “disorders due to addictive behaviors” – including gaming, gambling

There is still debate related to classification: impulse control disorder, compulsive spectrum illness, or addiction. In a state of “not enough research”.

Brand et al. 2023

Problematic Pornography Use and Compulsive Sexual Behavior Disorders

Shane W. Krause, PhD (he/him/his)
Non-Presenting: Marc N. Potenza, MD, PhD

Diagnostic Criteria of CSBD in ICD-11

A persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behavior, manifested in one or more of the following:

- a central focus of the person's life to the point of neglecting health and personal care or other interests, activities, and responsibilities.
- numerous, unsuccessful efforts to control or significantly reduce repetitive sexual behavior.
- continues to engage in repetitive sexual behavior despite adverse consequences
- continues even when the individual derives little or no satisfaction from it.

Over an extended period (e.g., 6 months or more).

- Marked distress or significant impairment in functioning.

Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviors is not sufficient to meet this requirement.

Rule outs: No mania, dementia, paraphilia, substance use disorder, etc.
(Kraus et al., 2018; Reed et al., 2022)

Boundary of Normality

- **Not** based on high levels of sexual interest
- **Not** due to distress related to **moral judgements and disapproval** about sexual impulses, urges, or behaviors
- **Not** based solely on relatively **brief periods**
- **Not** explained as a **Paraphilic Disorder**
- **Not** due to **Manic or Hypomanic Episode**
- **Not** the result of **Dementia Syndrome**, other **neurological conditions**, or other medical conditions
- **Not** due to the **use or misuse** of specific **prescribed** or **illicit drugs**

Common Behaviors Reported Among Treatment-Seeking Individuals

Frequent behaviors among treatment seekers with CSBD:

- Compulsive masturbation (38-83%)
- Pornography use (34-72%)
- Frequent casual/anonymous sexual partners (21-92%)
- Multiple sexual partners (12-40%)
- Paid sex (7-20%)

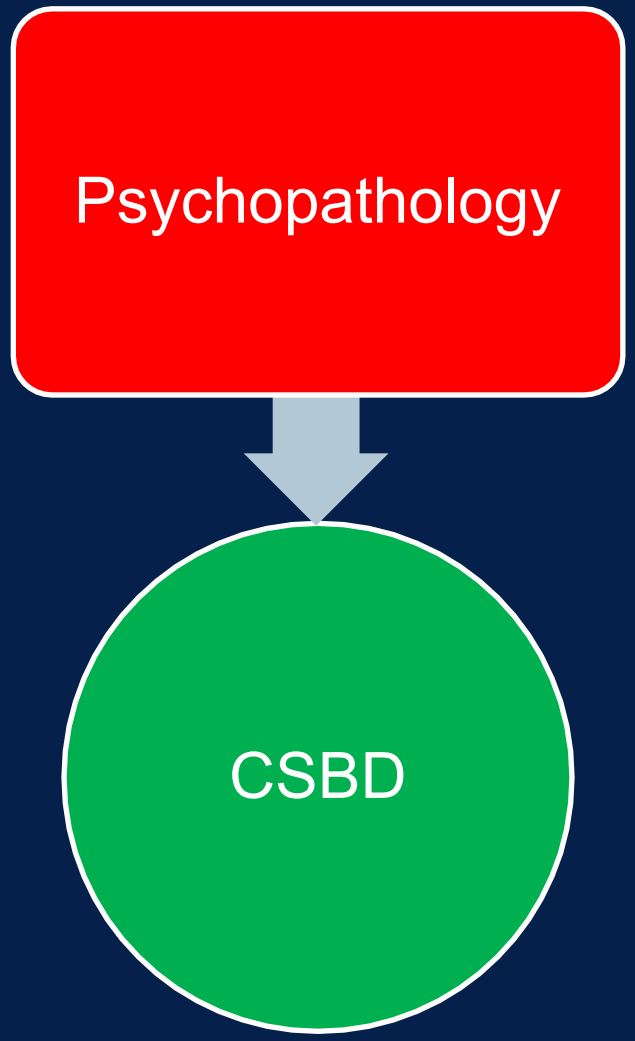
(Kraus et al., 2015; Reid et al., 2012; Scanavino et al., 2013)

Prevalence Estimates of CSBD/PPU

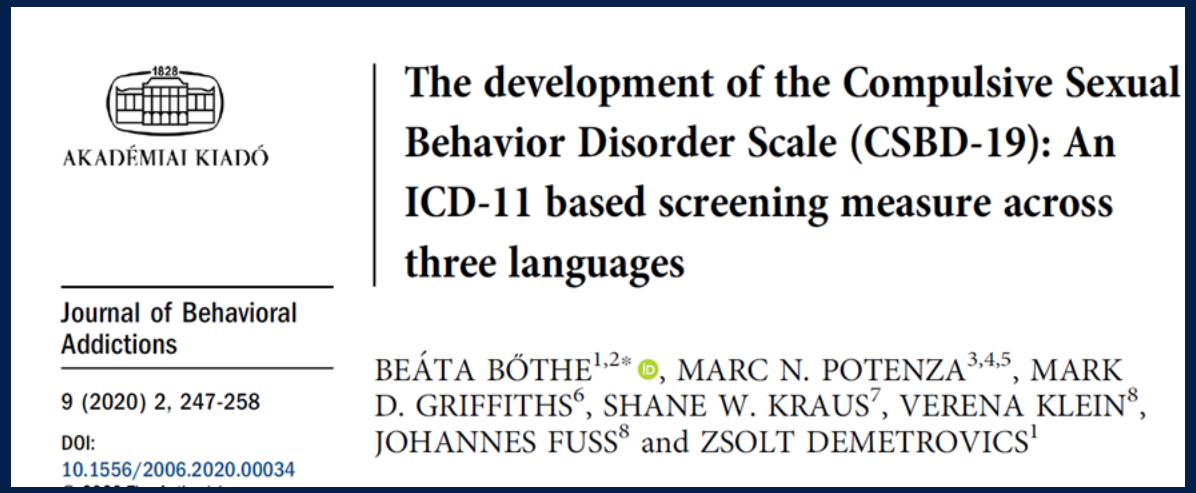
- **<3%** among U.S. general population (Kafka, 2010).

- 2,325 U.S. adults found that **8.6%** of the representative sample endorsed clinically relevant levels of sexual distress and/or impairment (Dickenson, Gleason, Coleman, & Miner, 2018).

1,056 U.S. past year pornography users – **11% of men and 3% of women** reported feeling "addicted to pornography" (Grubbs, Kraus, & Perry, 2019).



1. Mood Disorders
2. Anxiety Disorders
3. ADHD
4. PTSD
5. Trauma
6. Substance use / Opioids



AKADÉMIAI KIADÓ

The development of the Compulsive Sexual Behavior Disorder Scale (CSBD-19): An ICD-11 based screening measure across three languages

Journal of Behavioral Addictions

9 (2020) 2, 247-258

DOI:
10.1556/2006.2020.00034

BEÁTA BŐTHE[1,2*], MARC N. POTENZA[3,4,5], MARK D. GRIFFITHS[6], SHANE W. KRAUS[7], VERENA KLEIN[8], JOHANNES FUSS[8] and ZSOLT DEMETROVICS[1]

Scoring: Add the scores of the items. 50 points or more indicate high risk of compulsive sexual behavior disorder.

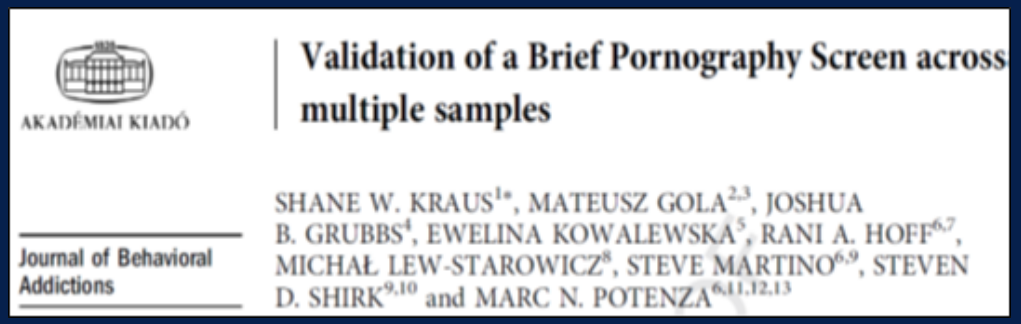
Factors of the scale:
Control: 1., 6., 11.
Salience: 2., 7., 12.
Relapse: 3., 8., 13.
Dissatisfaction: 4., 9., 14.
Negative consequences: 5., 10., 15., 16., 17., 18., 19.

CSBD-19 – A 19-item questionnaire used to assess the symptoms of Compulsive Sexual Behavior Disorder (CSBD) based on ICD-11 diagnostic criteria, with scores of 50 or higher indicating a high risk of CSBD

Main Findings – 42 Countries, 26 Languages

- 4.8% of the participants were at high risk of experiencing CSBD.
- Country and gender-based differences were observed, while no sexual orientation-based differences were present in CSBD levels.
- Only 14% of individuals with CSBD have ever sought treatment for this disorder, with an additional 33% not having sought treatment because of various reasons.
- Both versions (CSBD-19 & CSBD-7) of the scale demonstrated excellent validity and reliability (for 26 languages; https://osf.io/ud56g).

Bőthe, B., Koós, M., Nagy, L., Kraus, S. W., Demetrovics, Z., Potenza, M. N., …Vaillancourt-Morel, M-P. (2023). Compulsive sexual behavior disorder in 42 countries: Insights from the International Sex Survey and introduction of standardized assessment tools. *Journal of Behavioral Addictions*

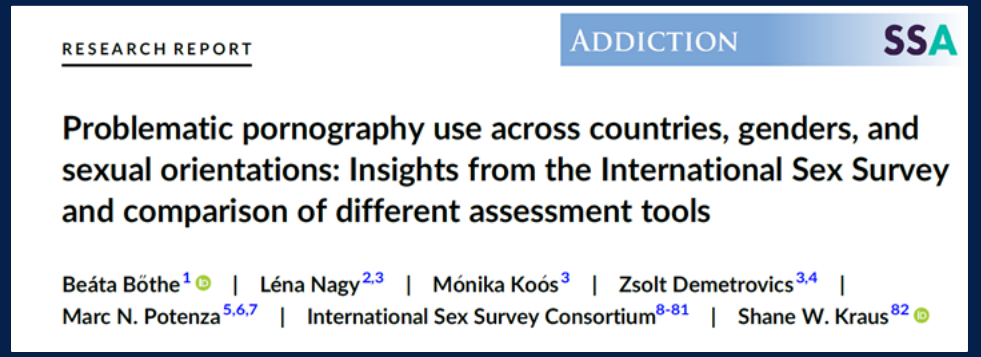


AKADÉMIAI KIADÓ

Validation of a Brief Pornography Screen across multiple samples

SHANE W. KRAUS[1*], MATEUSZ GOLA[2,3], JOSHUA B. GRUBBS[4], EWELINA KOWALEWSKA[5], RANI A. HOFF[6,7], MICHAŁ LEW-STAROWICZ[8], STEVE MARTINO[6,9], STEVEN D. SHIRK[9,10] and MARC N. POTENZA[6,11,12,13]

Journal of Behavioral Addictions



RESEARCH REPORT

ADDICTION SSA

Problematic pornography use across countries, genders, and sexual orientations: Insights from the International Sex Survey and comparison of different assessment tools

Beáta Bőthe[1] | Léna Nagy[2,3] | Mónika Koós[3] | Zsolt Demetrovics[3,4] | Marc N. Potenza[5,6,7] | International Sex Survey Consortium[8-81] | Shane W. Kraus[82]

Brief Pornography Screen is a five-item screener used to for problematic use of pornography.

In the past 6 months have these situations occurred to you:

You find yourself using pornography more than you want to.
You have attempted to “cut back” or stop using pornography, but were unsuccessful.
You find it difficult to resist strong urges to use sexually explicit material.
You find yourself using sexually explicit material to cope with strong emotions (e.g., sadness, anger, loneliness, etc.).
You continue to use pornography even though you feel gulity about it.

Scoring guide: *0 = never, 1 = sometimes, 2 = frequently, range 0-10.; Cut-off of 4 out of 10.*

For access to all 26 languages; see https://osf.io/ud56g).

Psychotherapy Interventions

- Studies support the effectiveness of multi-session psychotherapy for CSB.
  - Acceptance and Commitment Therapy (ACT) (Crosby & Twohig, 2016).
  - Cognitive Behavioral Therapy (CBT) (Young, 2013).

- Mindfulness-based approaches (Reid, Bramen, Anderson, & Cohen, 2014)
- Mindfulness based relapse prevention (MBRP) reduced time spent watching pornography, anxiety, depression and obsessive-compulsive symptoms (Holas, Draps, Kowalewska, Lewezuk, & Gola, 2020).
- Researchers found that using dialectical behavior therapy (DBT) skills training for the treatment of alcohol use disorder reduced symptoms on measures of emotional regulation, gambling, sex, shopping, binging and food restriction (Cavicchioli et al., 2020).

Psychopharmacology Interventions

- One placebo-controlled double-blind study (*n*=21) (Wainberg et al., 2006)
  - Citalopram (Celexa) found no effect on sex with partners, high placebo-response rate
  - 12-week trial: masturbation decreased; pornography use decreased
- Case study with naltrexone (150mg/daily) (Grant & Kim, 2001) and naltrexone for pornography use (50mg/daily) (Kraus et al., 2016)
- Naltrexone for CSB feasibility study of 20 men (Savard et al., 2020)
- First double-blind placebo-controlled RCT to investigate naltrexone 50mg/day) vs. paroxetine (20mg/day) among 73 heterosexual men with CSBD. Both were found to be effective in reducing CSBD symptoms (Lew-Starowicz et al., 2022).
- N-acetylcysteine with therapy– 5 of 8 patients some CSBD symptom improvement

For a review, see Borgogna, Owen & Kraus (2024)

Gambling Disorder and Pathologic Gaming Use

Emily Brunner, MD, DFASAM

Introduction to Gambling Disorder

- Classified as a behavioral addiction in DSM-5.
- Characterized by persistent, problematic gambling behavior.
- Shares similarities with substance use disorders.

Source: American Psychiatric Association (2013)

Gambling Disorder

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
    - In the age group 20-49, the mortality rate for problem gamblers is ***6.2x higher***, and the suicide rates are ***19.3x*** higher than the general population.
  - 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

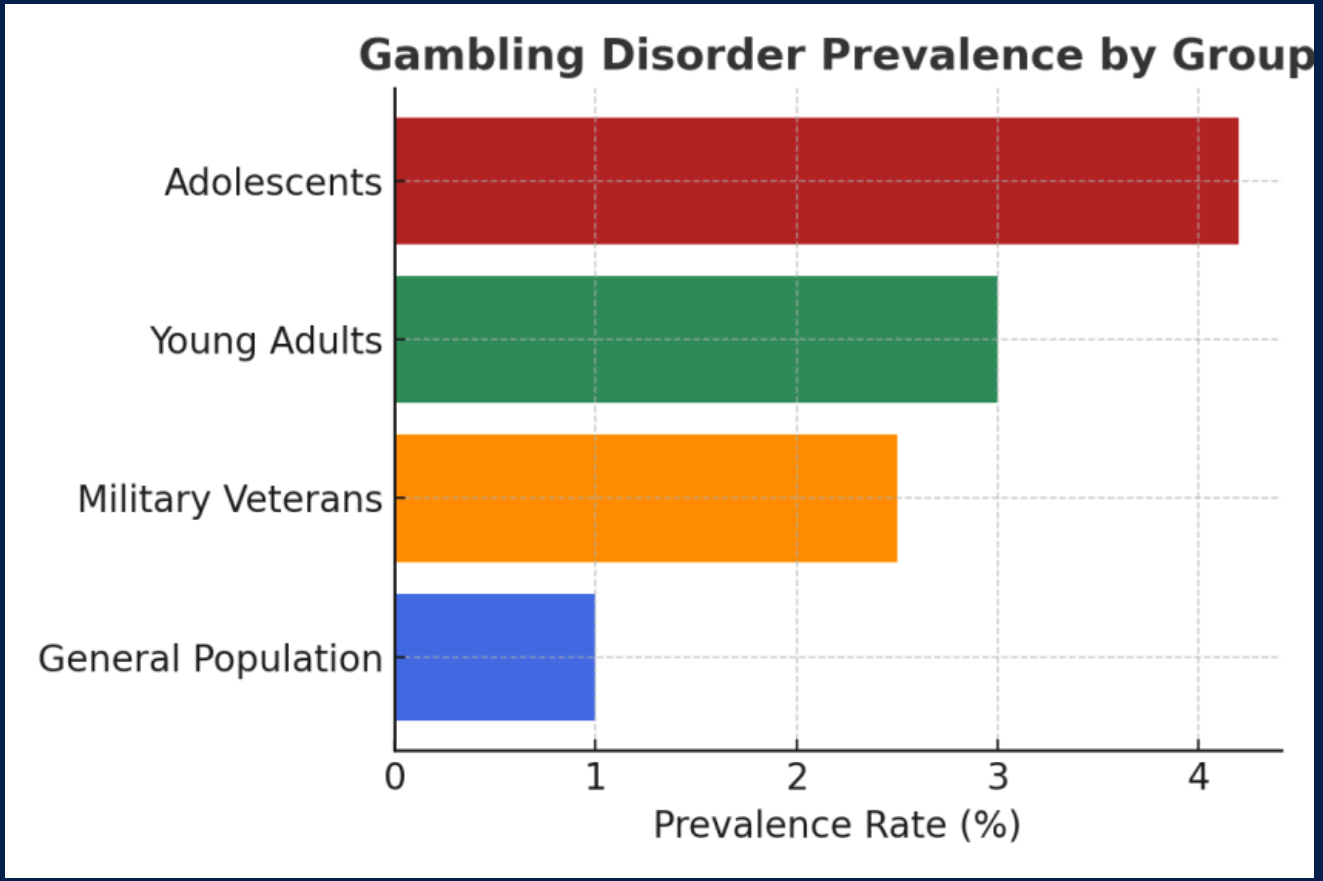
(King & Delfabbro, 2019; Kuss & Griffiths, 2012).

Prevalence & Demographics

- A study of nearly 300 ***homeless individuals*** showed that ***23%*** had problems with gambling.

- Prevalence rates: 0.42% (NESARC) to 1.9% (South Oaks Gambling Screen). Online gambling and sports betting have dramatically increased post-legalization. Young adults and adolescents are most affected.

  (Citation: American Gaming Association, 2023)

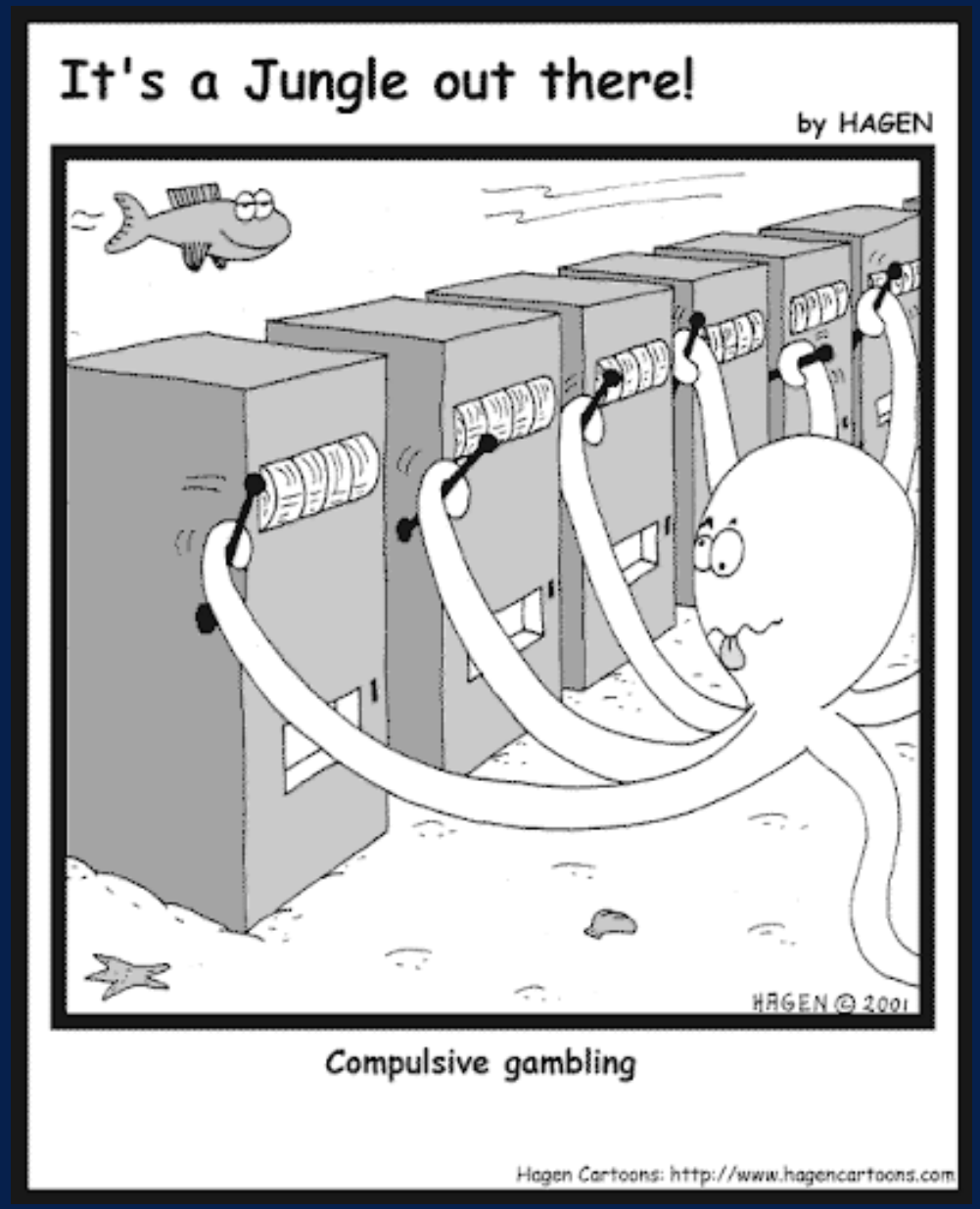


Diagnostic Criteria (DSM-5)

- Preoccupation with gambling.
- Increasing bets to achieve excitement.
- Restlessness/irritability when attempting to cut down.
- Chasing losses and lying to conceal extent of gambling.

Source: American Psychiatric Association (2013)

2-Question Screening



Lie:
"Have you ever had to lie to people important to you about how much you gambled?"

Bet:
"Have you ever felt a need to bet more money?"

Neurobiology of Gaming vs. Gambling

Aspect	Gaming	Gambling
Dopamine Release	Gradual increase over time	Quick spikes, high reward uncertainty
Brain Areas Affected	Prefrontal Cortex, Striatum	Nucleus Accumbens, Amygdala
Risk of Addiction	Moderate, but increasing	High, rapid progression
Psychological Impact	Reinforced engagement, skill-based	Reinforced compulsion, loss-chasing
Treatment Approaches	CBT, digital detox, behavioral regulation	CBT, financial controls, addiction therapy

Impact on Mental Health and Social Functioning

- Higher rates of depression, anxiety, and suicidal ideation.
- Strained relationships, job loss, financial bankruptcy.
- Increased use of emergency mental health services.

Source: Wardle et al. (2020)

Source: Petry et al. (2005)

Suicide and Gambling

30% of problem gamblers in the UK said they had tried to commit suicide before entering gambling treatment.

Most concerningly, there is the risk of suicidal ideation; a recent study per Wardle et al in 2020 showed suicidality was 19.2% in problem gamblers vs 4.4% in the rest of the population

This is the highest suicide ideation attempt rate of all types of addiction

Visitors to and residents of major gaming communities experience an elevated suicide rate; in Atlantic City (United States), and these higher suicide rates for visitors and residents appeared only after gambling casinos were opened (Phillips 1997)

Research in gambling treatment centers has showed 48% of patients report having had gambling-related suicidal ideation at some time (Ledgerwood 2004)

Dopaminergic Medications and Their Effects on Gambling & Gaming

Medication	Mechanism of Action	Clinical Use	Potency in Inducing Gambling	Effect on Internet Gaming Disorder
Levodopa	Precursor to dopamine, increases dopamine levels	Parkinson's disease	Moderate	Minimal
Pramipexole	Dopamine D2/D3 receptor agonist	Parkinson's disease, Restless legs syndrome	High	High
Ropinirole	Dopamine D2/D3 receptor agonist	Parkinson's disease, Restless legs syndrome	High	High
Cabergoline	Dopamine D2 receptor agonist	Parkinson's disease, Hyperprolactinemia	High	Moderate
Bromocriptine	Dopamine D2 receptor agonist	Parkinson's disease, Hyperprolactinemia	Moderate	Moderate
Amantadine	NMDA antagonist, increases dopamine release	Parkinson's disease, Influenza prevention	Low	Low
Rasagiline	MAO-B inhibitor, increases dopamine availability	Parkinson's disease, Adjunct therapy	Low	Unknown
Selegiline	MAO-B inhibitor, increases dopamine availability	Parkinson's disease, Adjunct therapy	Low	Unknown
Naltrexone (off-label)	Opioid antagonist, reduces dopamine reward response	Impulse control disorders, Gambling disorder (off-label)	Used to reduce gambling behavior	May reduce IGD symptoms
Aripiprazole	D2 partial agonist, affects mesolimbic dopamine system	Schizophrenia, Bipolar disorder	Moderate	Potentially increases gaming
Quetiapine	Atypical antipsychotic, weak dopamine blockade	Schizophrenia, Bipolar disorder	Low	Minimal
Sertraline	SSRI, affects serotonin-dopamine balance	Depression, Anxiety disorders	Variable	Variable
Varenicline	Nicotine receptor partial agonist, modulates dopamine release	Smoking cessation, Reducing impulsivity	Low	Low

Case Study 1: Middle-Aged Patient with Gambling Disorder

- 58-year-old woman with depression and gambling addiction.
- Believes she can beat slot machines with a 'system'.
- Facing financial ruin and suicidal ideation.

Source: Ledgerwood (2004)

Case Study 2: Adolescent and Loot Boxes

- 17-year-old male spending thousands on video game loot boxes.
- Signs of addiction: Compulsive behavior, financial secrecy.
- Parallels between loot boxes and gambling mechanics.

Source: GambleAware (2021)

Cognitive Distortions in Gambling

Cognitive Distortion	Description	Example
Gambler's Fallacy	Belief that past outcomes influence future probabilities.	'I've lost five times in a row, so I'm due for a win soon!'
Illusion of Control	Belief that one can influence the outcome of a game of chance.	'If I press the button at the right time, I can hit the jackpot.'
Near-Miss Fallacy	Belief that a near-win means a real win is imminent.	'I was just one number away from winning; I must be getting closer!'
Chasing Losses	Idea that continuing to gamble will help recover past losses.	'If I keep playing, I'll eventually win my money back.'
Selective Memory (Confirmation Bias)	Remembering wins more vividly than losses, reinforcing belief in success.	'I win a lot!' (while ignoring all the times they lost).
Superstitions and Rituals	Belief that certain behaviors, objects, or routines influence the outcome.	'Wearing my lucky shirt will help me win.'
Overestimation of Skill	Believing that personal knowledge or skill affects random outcomes.	'I've studied this game; I know how to win.'
Availability Heuristic	Overestimating the likelihood of winning based on prominent examples.	'I saw someone win big last week—maybe I can too!'
Sunk Cost Fallacy	Belief that because time or money has been invested, one must continue gambling.	'I've already spent so much; I can't stop now.'
Magical Thinking	Belief that unrelated actions or thoughts can influence gambling outcomes.	'If I think positively, I'll win.'

Treatment Approaches: Psychotherapy

- Cognitive Behavioral Therapy (CBT) as the gold standard.
- Focus on cognitive restructuring and impulse control.
- Motivational Interviewing (MI) for treatment engagement.

Source: Petry et al. (2005)

Impact on Mental Health & Social Functioning

- Gambling disorder is highly comorbid with major depression, anxiety, ADHD, and substance use disorders. Suicidal ideation among problem gamblers is 19.2% vs. 4.4% in the general population.

  (Citation: Wardle et al., 2020)

Pharmacological Treatments

- No FDA-approved medications for gambling disorder.
- Bupropion may be effective for internet gaming disorder
- Naltrexone (opioid antagonist) may reduce cravings.
- SSRIs and mood stabilizers show mixed results.

Source: Kraus (2020)

GLP-1s and Gambling: Understanding the Connection

- GLP-1 receptor agonists (GLP-1s), such as semaglutide (Ozempic, Wegovy), are used for diabetes and weight loss but have been linked to changes in behavior, including gambling tendencies.

- Key Points:
- - GLP-1s influence dopamine pathways, which regulate reward and impulsivity.
- - Some users report increased or decreased compulsive behaviors, including gambling.
- - Studies suggest a potential role in modulating addiction-related neural circuits.
- - Healthcare providers should monitor behavioral changes in patients using GLP-1s.

- Further research is needed to determine the extent and mechanism of this connection.

Barriers to Treatment & Access

- Only 10-30% of affected individuals seek treatment due to stigma and lack of specialized providers.

Technology and Peer Support in Recovery

- Apps like Gamban and QuitGamble help block access.
- Gamblers Anonymous (GA) offers peer support.
- Online therapy platforms provide accessibility.

Source: Schuler & Ferentzy (2016)

Ethical and Policy Considerations

- Regulation of sports betting and online gambling.
- Marketing restrictions to protect vulnerable individuals.
- Need for increased funding for gambling addiction treatment.

Source: Time (2023)

Conclusion and Key Takeaways Gambling Disorder

- Gambling disorder is a serious, often overlooked addiction.
- Comprehensive treatment includes therapy, medication, and support.
- Regulatory and ethical considerations are crucial for prevention.

Source: American Psychiatric Association (2013)

Problematic Social Media Use

Sara Polley, MD, FAPA, FASAM

From Clinic

“Tik Tok is my source of news... Like what is going on in politics and the Israel and Palestinian war… My habit is: I listed to my wind-down bedtime music and go online… then I end up seeing pictures of dead babies... I can’t stop looking at them. I spent 11 hours once looking at Tik Tok.

It reminds me of things my parents said they saw before they came as refuges. I have suicidal thoughts every day. My plan has been to dig a big hole on campus and jump in, then cover myself with dirt.”

23yo African female with ADHD, PTSD, BPD, and cannabis use disorder.

Social Media Use

Total of 5.04 billion users worldwide

94% of people on the internet use social media

Average working age individual (16 -64) spends 2.5 hours daily on social media

1/3 of total time on internet is social media

Minimal change in this data over past 5 years : pandemic increased number of users but not average time spent.

Age inversely correlated with use

Datareportal. (2025). *Digital 2025 global overview report*. Datareportal. https://datareportal.com/reports/digital-2025-global-overview-report

Youth Social Media Use

Age 13 – 17 :
95% use social media
25% report “near constant use”

Most Use: 15-17 years-old

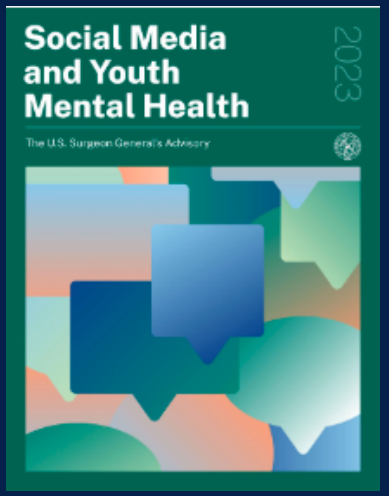
YouTube: boys > girls

TikTok/Snapchat: girls > boys

Black, Hispanic > White

“Right now, when I talk to young people on the road, they consistently tell me three things about social media: They say it makes them feel worse about themselves; it makes them feel worse about their friendships; and they can’t get off it”

- Vivek Murthy, MD, US Surgeon General, 2023



https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2023/

Problematic Social Media Use

Lack of regulation of one's use of social media which is associated with negative outcomes in everyday functioning.

DSM Diagnosis?

Persistent and recurrent problematic social media use leading to clinically significant impairment and distress, as indicated by the individual exhibiting five (or more) of the following over a 12-month period:

- Preoccupation with social media
- Needs to use social media at increasing frequency (or novelty?) to feel satisfied with use
- Restlessness, sadness, irritability when social media is taken away or not possible to use
- Inability to reduce engagement with social media, unsuccessful attempts to disengage
- Giving up other activities, loss of interest in other activities due to social media use
- Continues to use social media even after negative consequences or problems
- Lies to conceal the extent of involvement in social media.
- Has jeopardized or lost significant relationships, job, educational or career opportunities because of social media use
- Uses social media excessively or exclusively to to bolster self-worth, mood, relieve loneliness

https://www.psychiatry.org/patients-families/internet-gaming

From Clinic

"Social media has been really bad for me. It freaks me out to see all the bad things happening in the world, all in one place. It puts me in a bad mental place and adds to the stress that it is already in my REAL life… even though I know it causes problems, I still always scroll and click [in the app]. It isn't logical."

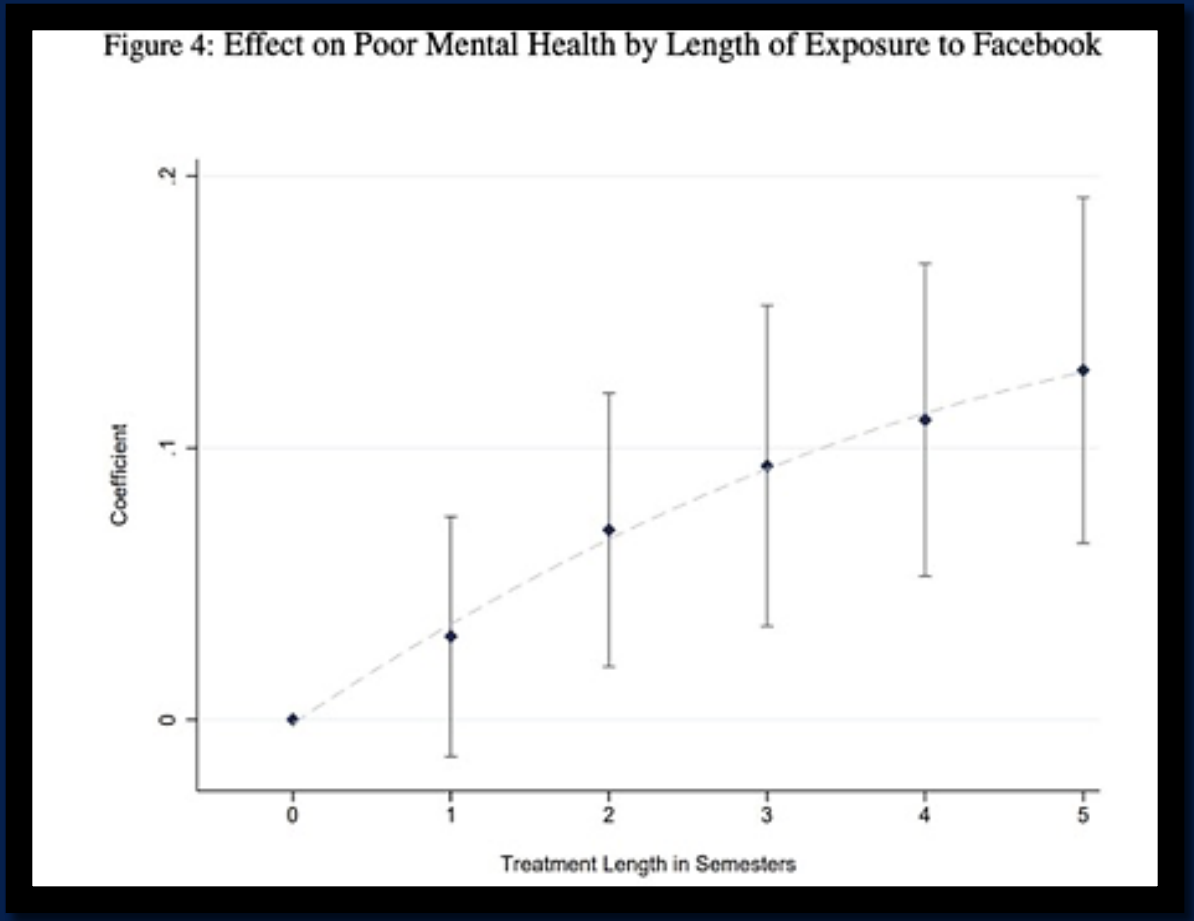
16-year-old Caucasian female with GAD and MDD

Psychological Impacts

Excessive social media use associated with:

- Depression and loneliness
- Low self-esteem
- High impulsivity
- Suicidality
- Work impairments
- Low sleep quality
- Reported levels of distress
- Social anxiety

Facebook and Mental Health



Increased length of exposure to Facebook correlated with worsening mental health.

After deactivation of Facebook there was trend toward improved happiness, life satisfaction, decreased political polarization, depression.

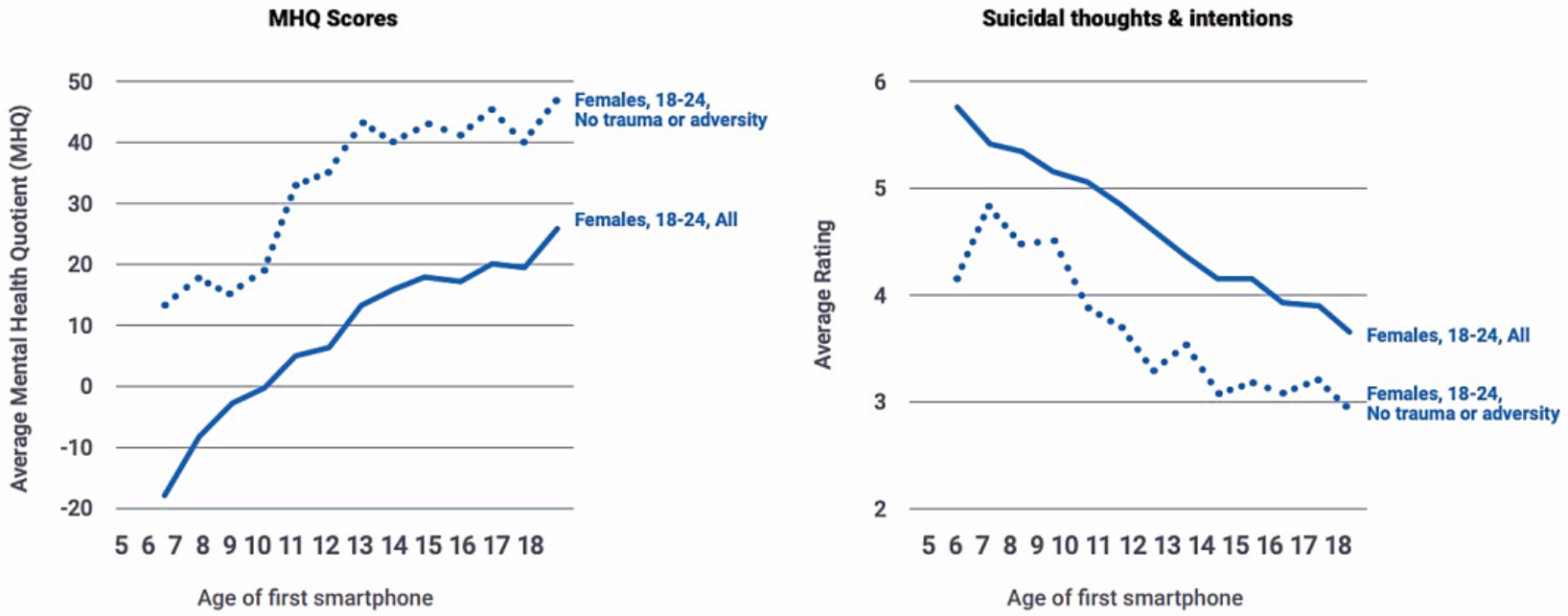
Allcott 2020

Makarin 2022

Youth Exposure

Figure 4: The effects of age of first smartphone ownership in the absence of life traumas or adversities

The absence of childhood traumas or adversities such as abuse, assault, neglect, parental divorce, illness and financial hardships do not protect against the trends with age of first smartphone ownership.



The trends of increasing mental wellbeing with older age of smartphone acquisition persisted among those who had not experienced any childhood trauma or adversity.

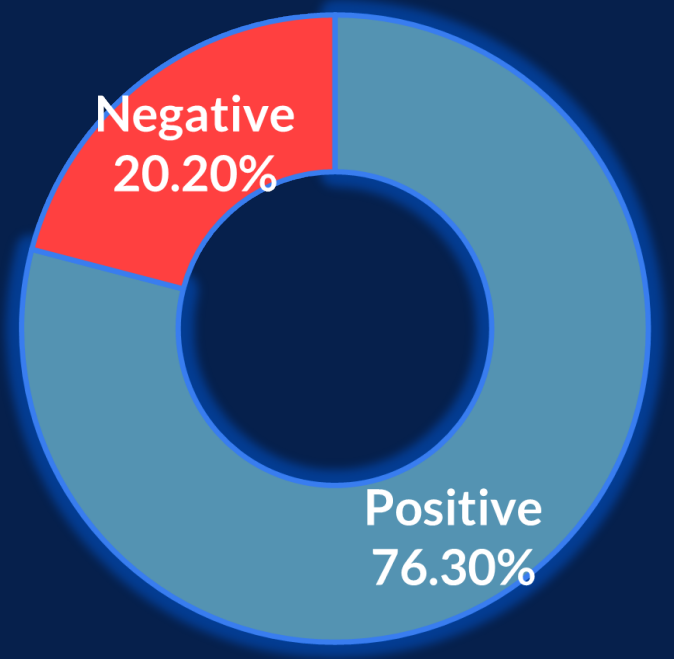
Source: https://sapienlabs.org/wp-content/uploads/2023/05/Sapien-Labs-Age-of-First-Smartphone-and-Mental-Wellbeing-Outcomes.pdf

Social Media and SUD

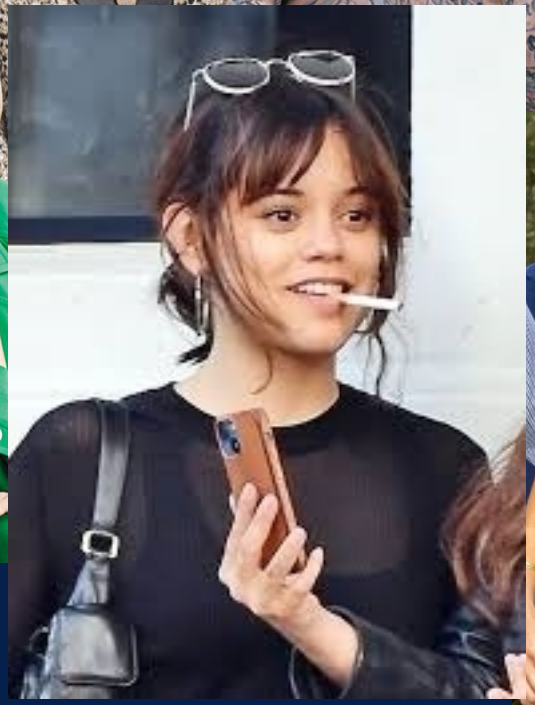
A total of 73 studies, which covered 15,905,182 substance-related posts on Twitter, YouTube, Instagram, Pinterest, TikTok and Weibo, were identified.

- 76.3% of all substance-related content was positive in its depiction of substance use, with 20.2% of content depicting use negatively.
- Sentiment regarding opiate use however was commonly negative (55.5%).

Substance-Related Content Depiction



Rutherford 2022



Source: Google Image Search 4/2025

Youth Social Media and SUD

Adolescents who are regularly active on social media have a greater likelihood of subsequent tobacco or cannabis use initiation.

From Clinic

"The dealers all have an account on the app. They post their menus each week. I was in my Mom's car on the way to school yesterday refreshing the app every second… waiting for the menu to be posted. My mom thought I was just on Reddit or something. I was so excited when the menu popped up, I just spent $600 right away."

16-year-old with OUD, AUD, CUD, PTSD

From Clinic

"I'm really into this guy on social, [insert name of non-medical health and supplement influencer]... I've bought his books, I hope to go to his workshop next. He talks about how to reset your brain using meditation and ancient healing. I bought his nutraceuticals. They are really expensive, 30 days is $900. They are supposed to help my ADHD and depression. I probably shouldn't be buying them but I'm obsessed…"

25-year-old with ADHD, 3 years since use of substances with diagnoses of OUD, AUD, CUD

Neurobiological Evidence

Similar brain changes with problematic social media use, substance use, gambling, and gaming.

- Increased activity in Ventral Striatum/NAc with socially salient interactions. Activity level correlated with frequency of use.
- Altered connectivity between DLPFC and VMPFC and NAc
- Changed structure of PFC regions and increased signaling when trying to disengage from likes, retweeting, etc.
- Amygdala hyperactivity

Wadsly, Brain Sci, 2023 : Meta Analysis of 28 studies

From Clinic

“She gets to excited about attention from men on [Instagram], she posts pictures with more and more clothing removed… The cat is out of the bag, I can’t possibly take away her phone or close the accounts now. She tells me she is going to kill herself and starts punching herself when I try to take the phone as a consequence. It would be even worse in a group home”.

Mom and guardian of a 22yo with FSIQ 65, ASD level 2

SBIRT for Social Media Use

Source: https://www.samhsa.gov/sbirt/resources

Bergen Social Media Addiction Scale

Scale

Here are six statements to consider. For each, answer: (1) very rarely, (2) rarely, (3) sometimes, (4) often, or (5) very often.

1. You spend a lot of time thinking about social media or planning how to use it.
2. You feel an urge to use social media more and more.
3. You use social media in order to forget about personal problems.
4. You have tried to cut down on the use of social media without success.
5. You become restless or troubled if you are prohibited from using social media.
6. You use social media so much that it has had a negative impact on your job/studies.

< 12 : Normal Use

12-18: Problematic use

> 18: Suggests Social Media Disorder

Andreassen 2012

Prevention and Intervention

Talk About Social Media

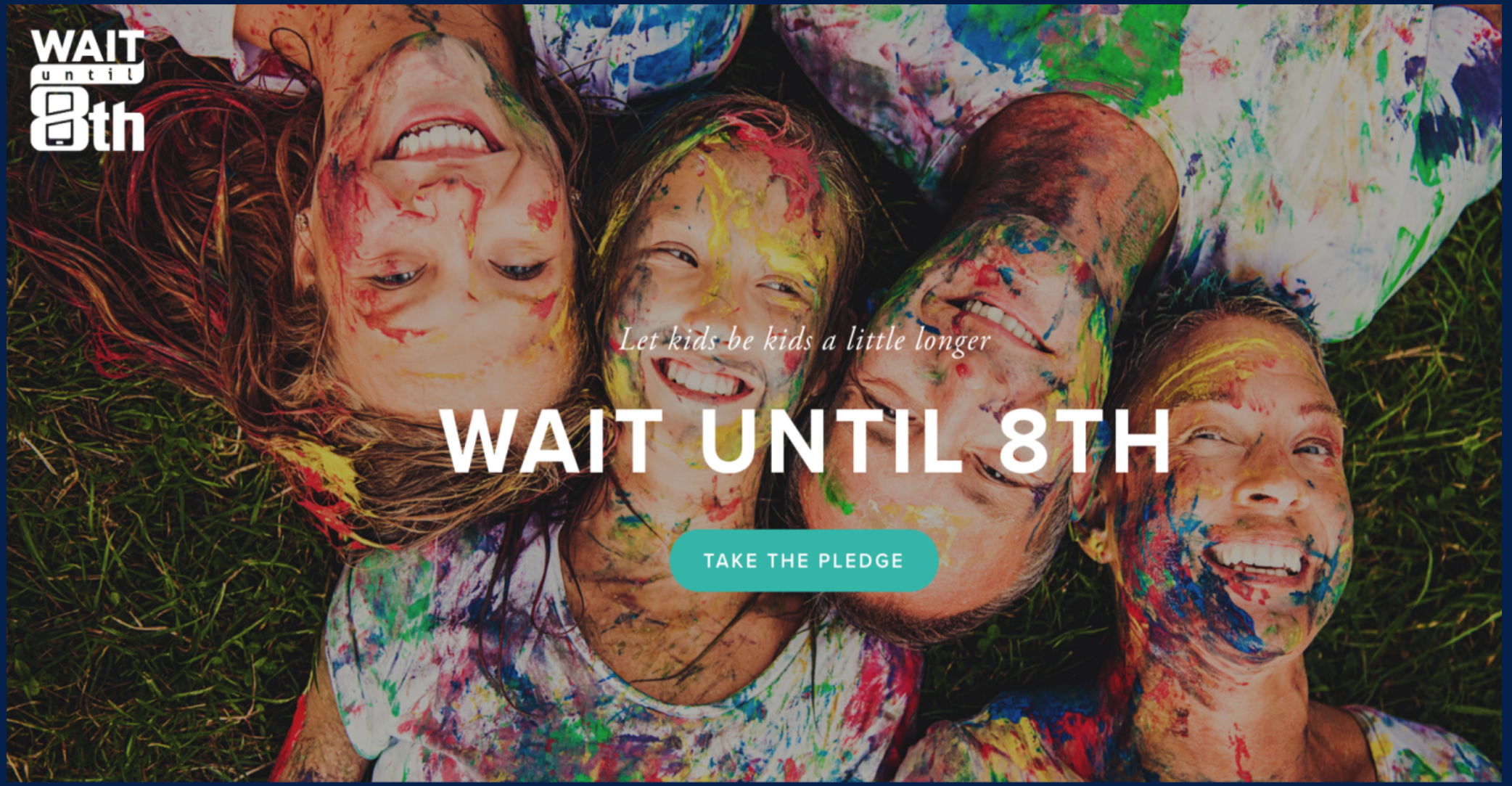
Set a Good Example

Learn and Set Parental Controls

Teach Alternative Coping Skills

Create a Family Media Plan

Source: Center of Excellence on Social Media and Mental Wellbeing (SMMW-CoE)



Source: https://www.waituntil8th.org

Treatment Recommendations

Optimize Care For:

- Trauma
- Anxiety and Depression
- Family Communication and Parenting
- Neurodevelopmental Concerns (ASD, ADHD)

Harm Reduction Approaches

Motivational Interviewing

Cognitive Behavioral Therapy

Real-life connections

Medications – buproprion? naltrexone? NAC?

Key Takeaways

- Accessing pornography, risky sex, games, gambling and social media is the easiest it has ever been.
- Exposure to addictive technologies is almost universal.
- Many people navigate these exposures without addiction, but some do not.
- Engage in prevention, education, and intervention.
- Current evidence supports treatment with psychosocial interventions used for other addictions.

Please stand up if you were able to remain off your devices for the duration of the presentation!

What are your feelings about how you did?!

General References

- Noah Castelo, Kostadin Kushlev, Adrian F Ward, Michael Esterman, Peter B Reiner, Blocking mobile internet on smartphones improves sustained attention, mental health, and subjective well-being, *PNAS Nexus*, Volume 4, Issue 2, February 2025, pgaf017, https://doi.org/10.1093/pnasnexus/pgaf017
- Grant JE, Potenza MN, Weinstein A, Gorelick DA. Introduction to behavioral addictions. Am J Drug Alcohol Abuse. 2010 Sep;36(5):233-41. doi: 10.3109/00952990.2010.491884. PMID: 20560821; PMCID: PMC3164585.
- American Psychiatric Association. (n.d.). What is technology addiction? *American Psychiatric Association*. https://www.psychiatry.org/patients-families/technology-addictions-social-media-and-more/what-is-technology-addiction
- Brand, Matthias & Potenza, Marc. (2023). Behavioral addictions in the ICD-11: An important debate that is anticipated to continue for some time. Journal of behavioral addictions. 12. 10.1556/2006.2023.00042.
- Kemp, S. (2023, January 28). *Digital 2023 Deep-Dive: How much time do we spend on social media? — DataReportal – Global Digital Insights*. DataReportal – Global Digital Insights. https://datareportal.com/reports/digital-2023-deep-dive-time-spent-on-social-media

References: Kraus

- Borgogna, N. C., Owen, T., Johnson, D., & Kraus, S. W. (2024). No magic pill: A systematic review of the pharmacological treatments for compulsive sexual behavior disorder. The Journal of Sex Research, 61(9), 1328-1341.
- Briken, Peer, et al. "Assessment and treatment of compulsive sexual behavior disorder: a sexual medicine perspective." Sexual Medicine Reviews 12.3 (2024): 355-370.
- Bőthe, B., Potenza, M. N., Griffiths, M. D., Kraus, S. W., Klein, V., Fuss, J., & Demetrovics, Z. (2020). The development of the Compulsive Sexual Behavior Disorder Scale (CSBD-19): An ICD-11 based screening measure across three languages. Journal of Behavioral Addictions, 9(2), 247-258.
- Bőthe, B., Nagy, L., Koos, M., Demetrovics, Z., Potenza, M. N., International Sex Survey Consortium, ... & Van Hout, M. C. (2024). Problematic pornography use across countries, genders, and sexual orientations: Insights from the International Sex Survey and comparison of different assessment tools. Addiction, 119(5), 928-950.
- Bőthe, B., Koós, M., Nagy, L., Kraus, S. W., Demetrovics, Z., Potenza, M. N., ... & Vaillancourt-Morel, M. P. (2023). Compulsive sexual behavior disorder in 42 countries: Insights from the International Sex Survey and introduction of standardized assessment tools. Journal of Behavioral Addictions, 12(2), 393-407.
- Cavicchioli, M., Movalli, M., Bruni, A., Terragni, R., Elena, G. M., Borgia, E., ... & Ogliari, A. (2023). The initial efficacy of stand-alone DBT skills training for treating impulsivity among individuals with alcohol and other substance use disorders. Behavior Therapy, 54(5), 809-822.
- Crosby, J. M., & Twohig, M. P. (2016). Acceptance and commitment therapy for problematic internet pornography use: A randomized trial. Behavior therapy, 47(3), 355-366.
- Dickenson, J. A., Gleason, N., Coleman, E., & Miner, M. H. (2018). Prevalence of distress associated with difficulty controlling sexual urges, feelings, and behaviors in the United States. JAMA network open, 1(7), e184468-e184468.
- Grant, J. E., & Kim, S. W. (2001). Demographic and clinical features of 131 adult pathological gamblers. Journal of clinical psychiatry, 62(12), 957-962.
- Grubbs, J. B., Kraus, S. W., & Perry, S. L. (2019). Self-reported addiction to pornography in a nationally representative sample: The roles of use habits, religiousness, and moral incongruence. Journal of Behavioral Addictions, 8(1), 88-93.
- Holas, P., Draps, M., Kowalewska, E., Lewczuk, K., & Gola, M. (2021). A pilot study of mindfulness-based relapse prevention for compulsive sexual behaviour disorder. Journal of Behavioral Addictions, 9(4), 1088-1092.
- Lew-Starowicz, M., Draps, M., Kowalewska, E., Obarska, K., Kraus, S. W., & Gola, M. (2022). Tolerability and efficacy of paroxetine and naltrexone for treatment of compulsive sexual behaviour disorder. World Psychiatry, 21(3), 468.

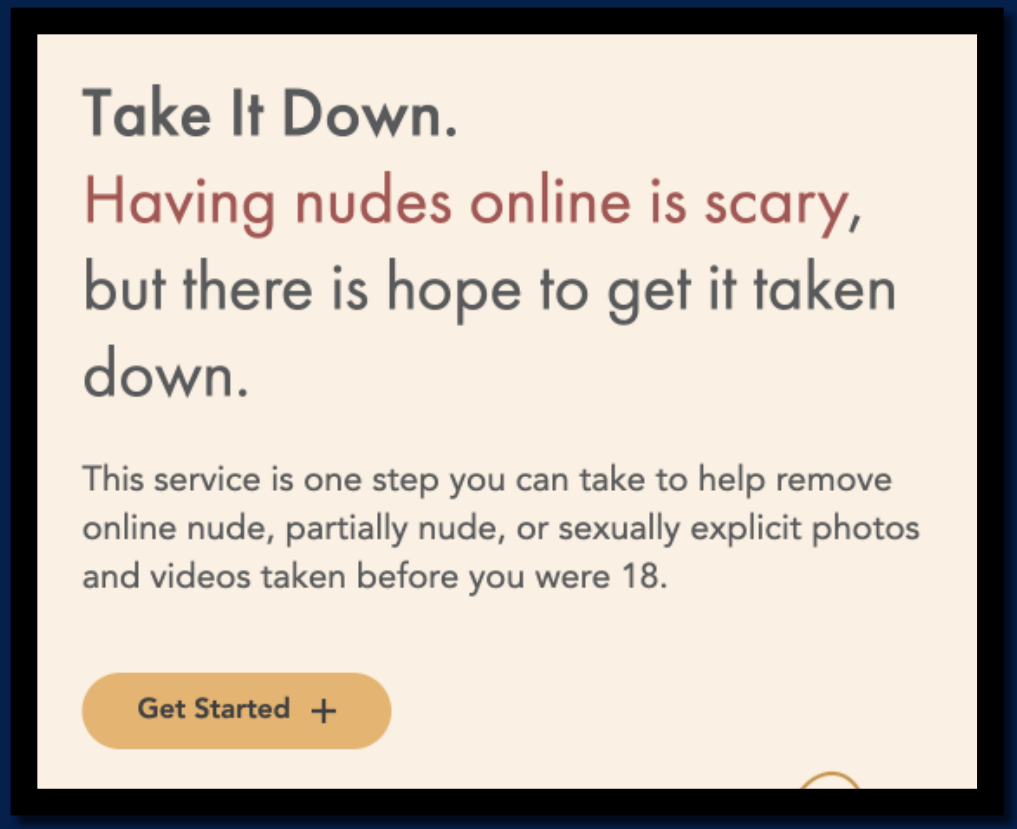
References: Kraus

- Kraus, S. W., Krueger, R. B., Briken, P., First, M. B., Stein, D. J., Kaplan, M. S., ... & Reed, G. M. (2018). Compulsive sexual behaviour disorder in the ICD-11. World Psychiatry, 17(1), 109.
- Kraus, S. W., Meshberg-Cohen, S., Martino, S., Quinones, L. J., & Potenza, M. N. (2015). Treatment of compulsive pornography use with naltrexone: A case report. American Journal of Psychiatry, 172(12), 1260-1261.
- Kraus, S. W., Gola, M., Grubbs, J. B., Kowalewska, E., Hoff, R. A., Lew-Starowicz, M., ... & Potenza, M. N. (2020). Validation of a brief pornography screen across multiple samples. Journal of Behavioral Addictions, 9(2), 259-271.
- Kraus, S. W., Voon, V., & Potenza, M. N. (2016). Should compulsive sexual behavior be considered an addiction?. Addiction, 111(12), 2097-2106.
- Reed, G. M., First, M. B., Billieux, J., Cloitre, M., Briken, P., Achab, S., ... & Bryant, R. A. (2022). Emerging experience with selected new categories in the ICD-11: Complex PTSD, prolonged grief disorder, gaming disorder, and compulsive sexual behaviour disorder. World Psychiatry, 21(2), 189-213.
- Reid, R. C., Carpenter, B. N., Hook, J. N., Garos, S., Manning, J. C., Gilliland, R., ... & Fong, T. (2012). Report of findings in a DSM-5 field trial for hypersexual disorder. The journal of sexual medicine, 9(11), 2868-2877.
- Reid, R. C., Bramen, J. E., Anderson, A., & Cohen, M. S. (2014). Mindfulness, emotional dysregulation, impulsivity, and stress proneness among hypersexual patients. Journal of clinical psychology, 70(4), 313-321.
- Savard, J., Öberg, K. G., Chatzittofis, A., Dhejne, C., Arver, S., & Jokinen, J. (2020). Naltrexone in compulsive sexual behavior disorder: A feasibility study of twenty men. The Journal of Sexual Medicine, 17(8), 1544-1552.
- Wainberg, M. L., Muench, F., Morgenstern, J., Hollander, E., Irwin, T. W., Parsons, J. T., ... & O'Leary, A. (2006). A double-blind study of citalopram versus placebo in the treatment of compulsive sexual behaviors in gay and bisexual men. Journal of Clinical Psychiatry, 67(12), 1968-1973.

References: Brunner

- GambleAware. (2021). Lifting the Lid on Lootboxes.
- Kraus, S. W. (2020). Current pharmacotherapy for gambling disorder: A systematic review.
- Expert Opinion on Pharmacotherapy, 21(3), 287-294.
- Ledgerwood, D. M. (2004). Gambling and suicidality in treatment-seeking pathological gamblers.
- Journal of Nervous and Mental Disease, 192(10), 711-714.
- Oei, T. P., & Gordon, L. M. (2008). Psychosocial factors related to gambling abstinence. Journal of
- Gambling Studies, 24(1), 91-103.
- Petry, N. M., Stinson, F. S., & Grant, B. F. (2005). Comorbidity of DSM-IV pathological gambling and
- other psychiatric disorders. Journal of Clinical Psychiatry, 66(5), 564-574.
- Schuler, A., & Ferentzy, P. (2016). Gamblers Anonymous as a recovery pathway: A scoping review.
- Journal of Gambling Studies, 32, 1261-1278.
- Wall Street Journal. (2023). New advances in addiction treatment: Brain stimulation for gambling
- disorder.
- Wardle, H., et al. (2020). Problem gambling and suicidality in England: A secondary analysis of a
- representative cross-sectional survey. Public Health, 184, 11-16.

Social Media: Brief Intervention



takeitdown.ncmec.org

missingkids.org/gethelpnow/cybertipline

From: Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory

Social Media Use: Brief Intervention

- Time limits on screens and apps
- Delete difficult apps or move off smartphone
- No access to screens within 1 hour of bedtime
- No screens in bedroom
- Children: Plan for behavioral escalation with limit setting
- Communicate as a family about media

SOURCE: PINTEREST

Source: AAP Policy Statement of Social Media and Youth

National Level Interventions

- Funding for National Institute of Behavioral Addiction
- Create SBIRT materials for social media use
- Develop official DSM 5 criteria for Social Media Use Disorder
- Regulate the age children can own an unrestricted smartphone
    - Groups suggesting 14 years old
- Fund studies looking at the role of AI, virtual reality within social media along with the impacts of social media on mental health, etc.
- Engage with international partners

Industry Regulation

- Create regulation that requires people to be identifiable online and not allow anonymous accounts
- Require transparency from tech companies on data they keep internally on how they use their targeting algorithms and outcome data.
- Require more robust enforcement of content
- Prevent content from being labeled “educational” unless proven to be the case
- Increased sophistication of parental control capabilities on platforms and devices
- Eliminate advertising on social media
- Create easy ways for individuals to report concerns

Community Interventions

- Incorporate methods for screening and education on social media into health and wellness programs for all ages.
- Increase opportunities for social connection and in person engagement.
- Limit use of rewarding technology in schools and workplaces - study the impact and effectiveness of these paradigms.

Polley References

- Aichner, T., Grünfelder, M., Maurer, O., & Jegeni, D. (2021). Twenty-Five Years of Social Media: A Review of Social Media Applications and Definitions from 1994 to 2019. Cyberpsychology, Behavior And Social Networking, 24(4), 215–222. https://doi.org/10.1089/cyber.2020.0134
- Alcott "The Welfare Effects of Social Media" American Economic Review. Vol 110, NO. 3; 2020 (pp629-667)
- Kelleghan AR, Leventhal AM, Cruz TB, Bello MS, Liu F, Unger JB, et al. Digital media use and subsequent cannabis and tobacco product use initiation among adolescents. Drug Alcohol Depend. 2020; 212:108017
- Office of the Surgeon General (OSG). (2023). Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory. US Department of Health and Human Services. Retrieved from https://www.hhs.gov/surgeongeneral/priorities/youth-mental-health/social-media/index.html
- Paschke K, Austermann MI, Thomasius R. ICD-11-Based Assessment of Social Media Use Disorder in Adolescents: Development and Validation of the Social Media Use Disorder Scale for Adolescents. Front Psychiatry. 2021 Apr 22;12:661483. doi: 10.3389/fpsyt.2021.661483. PMID: 33967862; PMCID: PMC8100192.
- Rutherford, B.N., et al. (2022) #TurntTrending: a systematic review of substance use portrayals on social media platforms. Addiction. doi.org/10.1111/add.16020
- Nguyen, D. (2022, October 13). Brutally Honest Illustrations by Austrian cartoonist Gerhard Haderer That Show What's Wrong With. aGrowthHacker.com. https://agrowthhacker.com/brutally-honest-illustrations-by-austrian-cartoonist-gerhard-haderer-that-show-whats-wrong-with-todays-society-part-1/
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. Psychological reports, 110(2), 501-517.
- Wadsley, M.; Ihssen, N. A Systematic Review of Structural and Functional MRI Studies Investigating Social Networking Site Use. Brain Sci.2023, 13, 787. https://doi.org/10.3390/brainsci13050787
- Cash H, Rae CD, Steel AH, Winkler A. Internet Addiction: A Brief Summary of Research and Practice. Curr Psychiatry Rev. 2012 Nov;8(4):292-298. doi: 10.2174/157340012803520513. PMID: 23125561; PMCID: PMC3480687.
- Casale, S., Akbari, M., Seydavi, M., Bocci Benucci, S., & Fioravanti, G. (2023). Has the prevalence of problematic social media use increased over the past seven years and since the start of the COVID-19 pandemic? A meta-analysis of the studies published since the development of the Bergen social media addiction scale. *Addictive Behaviors, 147*, 107838. https://doi.org/10.1016/j.addbeh.2023.107838

Polley References

- We Are Social & Meltwater (2023), “Digital 2023 Global Overview Report,” retrieved from https://datareportal.com/reports/digital-2023-global-overview-report on 15 Jan 2025.
- Pellegrino A, Stasi A, Bhatiasevi V. Research trends in social media addiction and problematic social media use: A bibliometric analysis. Front Psychiatry. 2022 Nov 10;13:1017506. doi: 10.3389/fpsyt.2022.1017506. PMID: 36458122; PMCID: PMC9707397.
- van den Eijnden RJJM, Lemmens JS, Valkenburg PM. The social media disorder scale. Comput Hum Behav. (2016) 61:478–87. doi: 10.1016/j.chb.2016.03.038
- American Academy of Pediatrics, Council on Communications and Media; Hill, D., Ameenuddin, N., Chassiakos, Y. R., Cross, C., Hutchinson, J., Levine, A., Boyd, R., Mendelson, R., Moreno, M., & Swanson, W. S. (2016). Media and Young Minds. Pediatrics, 138(5), e20162591. https://doi.org/10.1542/peds.2016-2591
- American Academy of Pediatrics, Council on Communications and Media. (2016). Media Use in School-Aged Children and Adolescents. Pediatrics, 138(5), e20162592. https://doi.org/10.1542/peds.2016-2592
- Radesky JS, Kistin CJ, Zuckerman B, et al. Patterns of mobile device use by caregivers and children during meals in fast food restaurants. Pediatrics. 2014;133(4). Available at: www.pediatrics.org/cgi/content/full/133/4/e843[PubMed]
- Rogers, R. (2023, November 29). Editorial Cartoon: Artificial intelligence. Santa Maria Times. Retrieved March 15, 2024, from https://santamariatimes.com