

CAPTASA 2018:

INTERNET GAMING ADDICTION

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Disclosures & Conflicts of Interest

- Paid Consulting, Honorariums, or Financial Compensation from:
 - Professional caseload includes clients struggling with Internet Addiction
- Specific Disclosure Statement of Financial Interest:
 - I, Todd Love, DO NOT have a financial interest/arrangement or affiliation with the hosting organization that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.



“Addiction”

- Historical Concept of Addiction
 - “A chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences” (NIDA, 2012)
 - Disputed Term: Descriptive vs. Pejorative
 - Eliminated in DSM-III, Reproposed for DSM-5
 - About Reward, not Pleasure

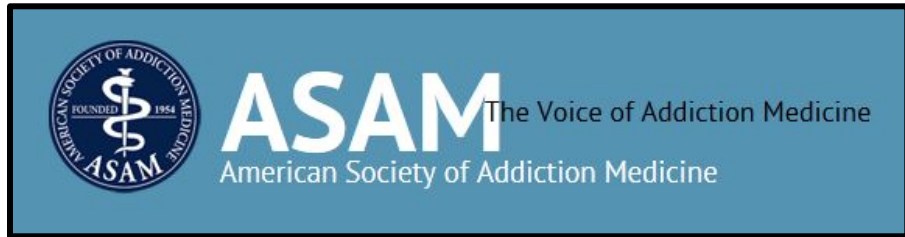


Behavioral Addiction

- Not a new concept:
 - Orford (1985) “Excessive Appetites” – gambling, eating, sex
 - Marlatt, Baer, Donovan, & Kivlahan (1988) “Addictive behaviors”
- Multiple overlaps b/t behavioral addictions and chemical addictions:
Comorbidity, course, genetic contribution, neurobiology, phenomenology (craving, intoxication, withdrawal), tolerance, and treatment response (Grant, Potenza, Weinstein, & Gorelick, 2010; Leeman & Potenza, 2013) ([more...](#))



Behavioral Addiction



- A primary, chronic disease of brain reward, motivation, memory and related circuitry...This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.
(ASAM, 2011)
- “Addiction to ... *Drugs/Games/Gambling/Porn/Sex/etc*”



Tolerance and Withdrawal

- **Tolerance** results from a homeostatic adaptation to chronic increased levels of dopamine in the Reward Center (potentially caused by alcohol, gambling, gaming, porn, sex, etc.)
 - Need more to maintain desired state
- **Withdrawal** – incorrectly thought to require external chemical consumption
 - Withdrawal is negative mood state resulting from loss of artificially elevated levels of dopamine due to cessation of chronic activities (chemical consumption or behavioral patterns)

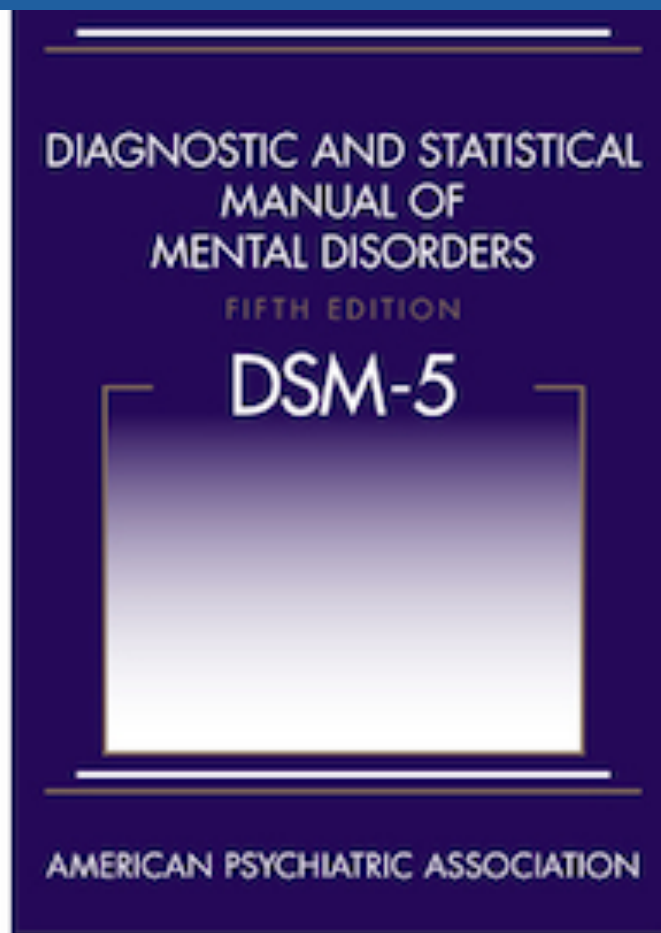


Other Addictive Behaviors

- Exercise addiction, Gambling, Sex Addiction, Workaholism
- Cell phone addiction
- Social Networking Addiction
- Facebook addiction
 - (Andreassen, Torsheim, Brunborg, & Pallesen, 2012; Griffiths, 2012; Kittinger, Correia, & Irons, 2012; Koc & Gulyagci, 2013; Rosen, Whaling, Rab, Carrier, & Cheever, 2013)
- **Binge eating and Obesity** currently under active research, including by the head of NIDA
 - (Ahmed, Guillem, & Vandaele, 2013; Balodis, Grilo, et al., 2013; Balodis, Kober, et al., 2013; Blum, Oscar-Berman, Barh, Giordano, & Gold, 2013; Clark & Saules, 2013; Gearhardt, Boswell, & Potenza, 2014; Rodgers, Melioli, Laconi, Bui, & Chabrol, 2013; Volkow, Wang, Tomasi, & Baler, 2013a, 2013b).



DSM-5



DSM-5 proposed changes

- Proposed for DSM-5
 - *Addiction & Related Disorders* chapter
 - *Behavioral Addictions* sub-chapter
 - *Pathological Gambling* move to *Addiction & Related Disorders* chapter
 - *Internet Addiction/ Internet Use Disorder*
 - *Hypersexual Disorder*



DSM-5 Outcomes

- *Addiction* chapter title **not** created, use of term minimized
- *Substance-Related and Addictive Disorders* chapter **created** instead
 - *Pathological Gambling* renamed to *Gambling Disorder* **placed here**
- *Behavioral Addictions* subchapter **not** created
 - *Non-Substance-Related Disorders* subchapter **created** instead
- *Internet Addiction/ Internet Use Disorder* **not** included
- *Internet Gaming Disorder* diagnosis **created** in Section III (never proposed)
- *Hypersexual Disorder* **not** included



Addictive Behaviors in the ICD-11

Last Update: J
ICD-11 Beta Draft (Mortality and Morbidity Statistics)

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[Contributions](#)
[Info](#)

- ▶ Dissociative disorders
- ▶ Feeding or eating disorders
- ▶ Elimination disorders
- ▶ Disorders of bodily distress or bodily experience
- ▼ Disorders due to substance use or addictive behaviours
 - ▶ Disorders due to substance use
 - ▼ Disorders due to addictive behaviours
 - ▶ 6D10 Gambling disorder
 - ▶ 6D11 Gaming disorder
 - ▶ 6D1Y Other specified disorders due to addictive behaviours
 - ▶ 6D1Z Disorders due to addictive behaviours, unspecified
 - ▶ Impulse control disorders

Foundation Id : <http://id.who.int/icd/entity/1602669465>

Disorders due to substance use or addictive behaviours

Parent
 06 Mental, behavioural or neurodevelopmental disorders

Description
 Disorders due to substance use and addictive behaviours are mental and behavioural disorders that develop as a result of the use of predominantly psychoactive substances, including medications, or specific repetitive rewarding and reinforcing behaviours.

All Index Terms
 There are no index terms associated with this entity



Internet-Related Addictions

- Internet Addiction
 - Internet Gaming Disorder
 - Internet Pornography Addiction
-
- Problematic Internet Use
 - Problematic Gaming
 - Problematic Pornography Use



Dopamine and the Internet

- *Endless Novelty*
- *Searching & Seeking*
- *Anticipation*
- *Shock & Surprise*

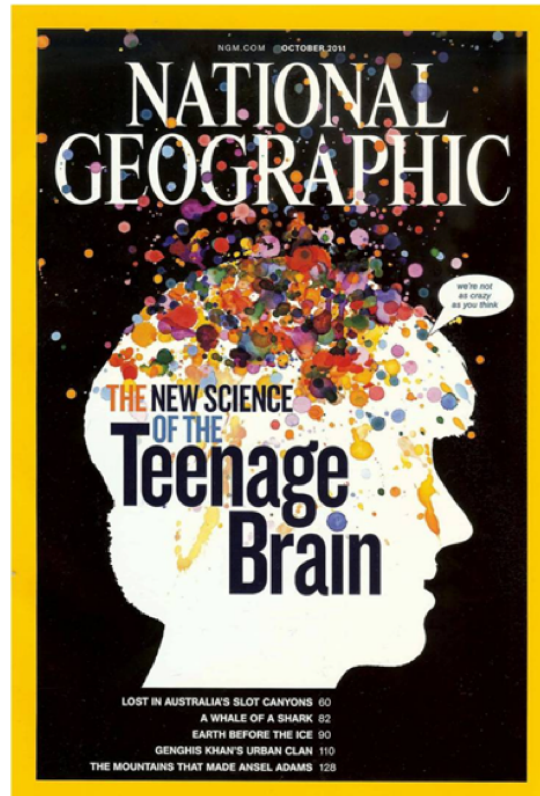


Information Overload – Classical Conditioning

The image is a collage illustrating the concept of information overload and classical conditioning. It features several key elements:

- Central Figure:** A man's face is shown with a globe of various small images (photos, videos, etc.) on his head, symbolizing the overwhelming amount of information.
- Top Left:** A snippet of the Google News homepage, showing the search bar, the "News" section, and "Top Stories".
- Top Right:** A smartphone screen displaying a notification: "1 New Message Received".
- Bottom Left:** A YouTube video player showing a video titled "Funny Cats COMPILATION 2015 - Funny Videos 2015 - 720p". The video content shows a cat sitting on a toilet.
- Bottom Right:** Social media icons, including the Facebook "f" logo and a "Like" button with a thumbs-up icon.
- Bottom Right Corner:** A stylized icon of a human head profile with a brain, symbolizing cognitive processing or conditioning.

Special Considerations: Adolescents



Internet Addiction

- Internet Addiction
 - Proposed for DSM-5
 - Block (2008) 4 key components: *excessive use, withdrawal, tolerance, & adverse consequences*
 - Subtypes: excessive gaming, sexual preoccupations, email/txt msg
 - Added later: Social networking (Yau, Crowley, Mayes, & Potenza, 2012)
 - Tao et al. (2010)
 - Included symptom, exclusion, impairment, & course criterion
 - Subtypes not specified



Internet Addiction (Problematic Internet Use)

- Internet Addiction Disorder (IAD)
- Internet Use Disorder (IUD)
- Compulsive Internet Use (CIU)
- *Problematic Internet Use (PIU)*,
 - At-Risk Problematic Internet Use (ARPIU)
 - *GPIU vs SPIU*
 - *General Problematic Internet Use (GPIU)*
 - *Specific Problematic Internet Use (SPIU)*
- Pathological Technology Use (PTU)
 - Includes computer, Internet, television, cellphone, video games, etc.



Internet Addiction / PIU Assessment Tools

- Compulsive Internet Use Scale (CIUS)
- Generalized Problematic Internet Use Scale (GPIUS) (GPIUS-2)
- **Internet Addiction Test (IAT) (sIAT)**
- Internet Disorder Scale (IDS-15)
- Internet-Related Addictive Behavior Inventory (IRABI)
- Pathological Internet Use Scale (PIUS)
- *Problematic Internet Use Questionnaire Short-Form (PIUQ-SF-6)*
- Problematic and Risky Internet Use Screening Scale (PRIUSS)
- Young Diagnostic Questionnaire (YDQ), M-YDQ



Internet Addiction Test– Short Version (sIAT)

1. How often do you find that you stay on-line longer than you intended?
2. How often do you neglect household chores to spend more time on-line?
3. How often do your grades or school work suffer because of the amount of time you spend on-line?
4. How often do you become defensive or secretive when anyone asks you what you do on-line?
5. How often do you snap, yell, or act annoyed if someone bothers you while you are on-line?
6. How often do you lose sleep due to being online late at night?
7. How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line?
8. How often do you find yourself saying “just a few more minutes” when on-line?
9. How often do you try to cut down the amount of time you spend on-line and fail?
10. How often do you try to hide how long you’ve been on-line?
11. How often do you choose to spend more time on-line over going out with others?
12. How often do you feel depressed, moody, or nervous when you are off-line, which goes away once you are back on-line?



Internet Gaming Disorder (IGD)

- #1 of 3 originally proposed subtypes of Internet Addiction
- Listed in Section III “Conditions for further study” in the DSM-5
- Other terms:
 - Digital Gaming Disorder
 - Gaming Disorder
 - Internet Gaming Addiction
 - Online Gaming Addiction
 - Problematic Online Game Use (POGU)
 - Problem Video Game Playing (PVGP)
 - Video Game Addiction
 - Video Gaming Disorder



Video: Love Child documentary trailer



Video: Web Junkie documentary trailer



Gaming Disorder and the ICD-11 (Beta Draft)

- Mental, behavioral or neurodevelopmental disorders
 - Disorders due to substance use or addictive behaviors
 - Disorders due to addictive behaviours
 - D611.0 **Gaming Disorder**
 - 6D11.0 Gaming disorder, **predominately online**
 - 6D1.1 Gaming disorder, **predominantly offline**
 - 6D11.Z Gaming disorder, **unspecified**
 - ... *characterized by a pattern of persistent or recurrent gaming behaviour, which may be online 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.
 - ... *sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning.*



IGD – DSM-5 Diagnostic Criteria

PMC full text: [PLoS One. 2014; 9\(10\): e110137.](#)

Published online 2014 Oct 14. doi: [10.1371/journal.pone.0110137](#)

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Table 1

Model Comparison: “Components” Model (Griffiths, 2005) vs. Internet Gaming Disorder DSM-5 nine criteria (APA, 2013).

Components Model (Griffiths, 2005)	Internet Gaming Disorder DSM-5 (APA, 2013)
Saliency	1 1. Preoccupation with Internet Games (The individual thinks about previous gaming activity or anticipates playing the next game; Internet gaming becomes the dominant activity in daily life).
Mood Modification	8 8. Use of Internet Games to escape or relieve a negative mood (e.g., feelings of helplessness, guilt, anxiety).
Tolerance	3 3. Tolerance – the need to spend increasing amounts of time engaged in Internet games.
Withdrawal	2 2. Withdrawal Symptoms when Internet gaming is taken away. (These symptoms are typically described as irritability, anxiety, or sadness, but are no physical signs of pharmacological withdrawal).
Conflict	5, 6, 7 and 9 5. Loss of interests in previous hobbies and entertainment as a result of, and with the exception of, Internet games. 6. Continued excessive use of Internet games despite knowledge of psychosocial problems. 7. Has deceived family members, therapists, or others regarding the amount of Internet gaming. 9. Has jeopardised or lost a significant relationship, job, or educational career opportunity because of participation in Internet games.
Relapse	4 4. Unsuccessful attempts to control the participation in Internet games.



Internet Gaming Disorder Assessment Tools

- Assessment of Computer Game Addiction in Children – Revised
- Computer/Gaming-station Addiction Scale (CGAS)
- Game Addiction Scale
- Internet Gaming Disorder Test (IGD-20) & (IGD-10)
- Internet Gaming Disorder Scale (IGDS) & (IGDS9-SF)
- Online Game Addiction Scale (OGAS)
- Problematic Online Gaming Questionnaire (POGQ)
- Pathological Video Game Use Scale (PVGUS)
- Problematic Video Game Playing (PVP) Scale
- Problem/Problematic Online Game Use Scale (POGUS)
- Videogame Addiction Test (VAT)
- Video Game Dependency Scale



Internet Gaming Disorder Test: IGDT-10

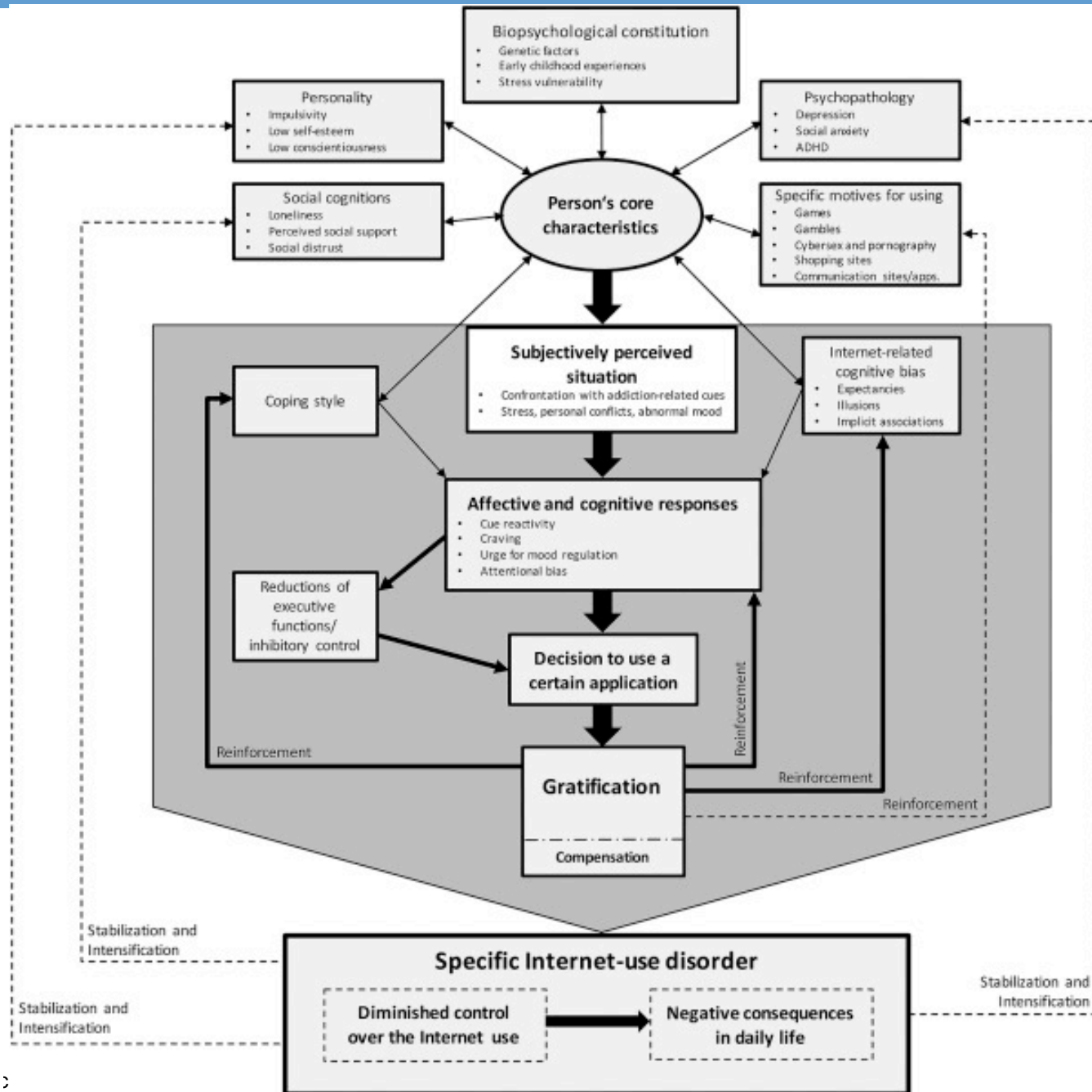
1. When you were not playing, how often have you **fantasized** about gaming, **thought of** previous gaming sessions, and/or **anticipated** the next game?
2. How often have you **felt restless, irritable, anxious and/or sad** when you were unable to play or played less than usual?
3. Have you ever in the past 12 months **felt the need to play more often or played for longer periods** to feel that you have played enough?
4. Have you ever in the past 12 months **unsuccessfully tried to reduce the time spent** on gaming?
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?
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)?
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?
8. Have you **played to relieve a negative mood** (for instance helplessness, guilt, or anxiety)?
9. Have you **risked or lost a significant relationship** because of gaming?
10. Have you ever in the past 12 month **jeopardized your school or work performance** because of gaming?



I-PACE model

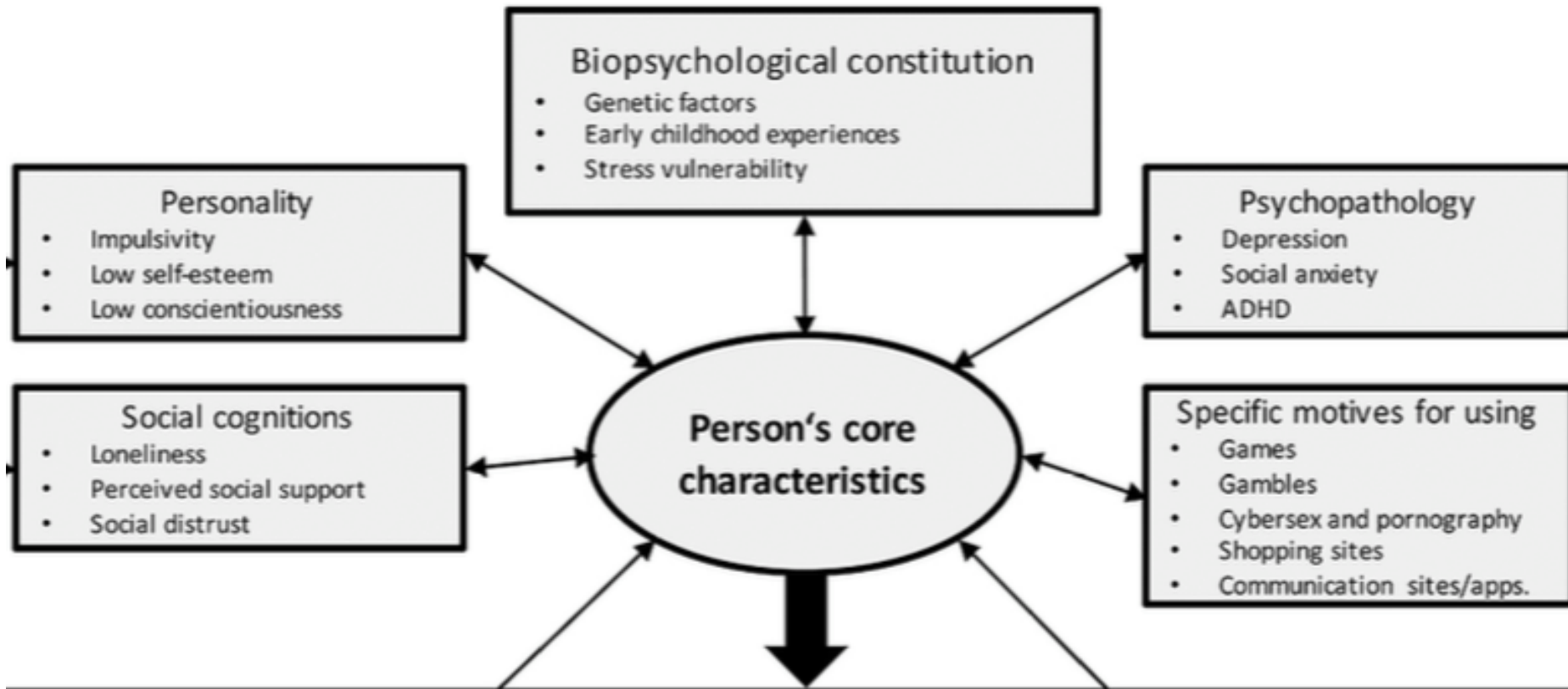
- Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders: An Interaction of Person-Affect-Cognition-Execution (I-PACE) model
 - Brand, M., Young, K., Laier, C., Wölfling, K., & Potenza, M. N. *Neuroscience & Biobehavioral Reviews*, 71, 252-266. (2016)





Interaction of Person-Affect-Cognition-Execution (I-PACE) model

Brand, Young, Laier, Wölfling, & Potenza (2016)



Torres-Rodríguez, A., Griffiths, M. D., & Carbonell, X. (2017). The treatment of Internet Gaming Disorder: A brief overview of the PIPATIC program. *International Journal of Mental Health and Addiction*, 1-16.

Table 1 Selective important risk factors in addiction to online videogames

1) Biological factors <ul style="list-style-type: none"> • Vulnerability to addictions • Deficits in neurotransmitters • Psychiatric comorbidity: depression, anxiety, ADHD, ASD, etc. 	3) Environmental factors <ul style="list-style-type: none"> • Family environment: conflictive, poor communication and affection, lack of supervision and family cohesion, etc. • School environment with low performance, demotivation, etc. • Poor social environment
2) Personality and psychological vulnerability factors <ul style="list-style-type: none"> • Immaturity • Emotional instability • Unconsolidated identity • Low self-esteem and indecision • Lack of self-control • Frustration • Low resilience • High sensation search • Deficit of social skills, inhibition and extreme shyness 	4) Stress factors <ul style="list-style-type: none"> • Grief • Major crises • Drastic life changes 5) Structural factors



Consequences without addiction: Decreased motivation & failure-to-launch
Video: Philip Zimbardo Ted Talk: “The Demise of Guys”



Internet Gaming Disorder Treatment

Table 9 Comparison between PIPATIC program and other relevant treatment programs

Psychological interventions related to technologies addictions	N = sample	Motivational interviewing	Setting aims	Psychoeducation	Self-observation and time organization	Stimulus control	Coping strategies	Cognitive restructuring	Withdrawal and exposure
PIPATIC	17	●	●	●	●	●	●	●	●
Diaz et al. 2008	–	●	●	○	●	●	●	●	●
Dong and Potenza 2014	–	●	●	○	○	●	●	●	●
King et al. 2010a	–	○	●	○	●	●	●	●	●
Young 2013 (CBT-IA)	128	●	●	○	●	●	●	●	●
Li and Wang 2013 ^a	14	○	●	●	●	○	○	●	●
Kim 2008 ^a	25	○	●	●	●	●	●	○	●
Su et al. 2011	65	●	●	○	●	●	●	○	●
Shek et al. 2009 ^b	59	●	●	○	○	○	○	○	●
Marco and Chóliz 2014	1	●	●	○	●	●	●	○	●

Psychological interventions related to technologies addictions	Identity and self-esteem	Emotional intelligence	Social skills	Family therapy	Lifestyle management	Comorbid disorders treatment	Relapse prevention	Follow-up
PIPATIC	●	●	●	●	●	●	●	●
Diaz et al. 2008	●	●	○	●	○	●	●	●
Dong and Potenza 2014	○	○	●	●	○	●	●	○
King et al. 2010a	○	○	○	○	○	○	●	○
Young 2013 (CBT-IA)	●	○	●	●	●	●	●	○
Li and Wang 2013 ^a	○	○	●	○	○	●	●	○
Kim 2008 ^a	○	○	●	○	○	○	○	○
Su et al. 2011	○	○	○	○	○	○	●	○
Shek et al. 2009 ^b	○	○	○	●	○	○	○	○
Marco and Chóliz 2014	○	○	○	●	○	○	●	●

● present, ● present with some limitations, ○ not present

^a Group therapy

^b Individual and group therapy (mixed)



Treatment: CBT-IA

- Young (2007) successfully utilized a cognitive behavioral model with a population of 114 subjects in her Internet recovery clinic.
- Cognitive Behavioral Therapy for Internet Addiction (CBT-IA) (Young, 2011).
 1. Behavior modification
 2. Cognitive restructuring
 3. Harm reduction



Inpatient/Residential Options

- reSTART
 - 45-day residential program outside Seattle for Internet Addiction
- Bradford Regional Hospital
 - "Digital Detox"



IGD Differential Diagnosis – not always a “disorder”

- Generation Z = The “iGeneration” (1995-2002)
 - 94% online daily, 25% online “almost constantly”
 - Regular gaming is today's norm
- Pro-social aspects
 - Competitive
 - Professional gaming – e-Sports
- Clinical aspects for multiple populations



e-Sports



BRITISH
ESPORTS
ASSOCIATION



IESF
International e-Sports Federation



KeSPA
KOREA e-SPORTS ASSOCIATION

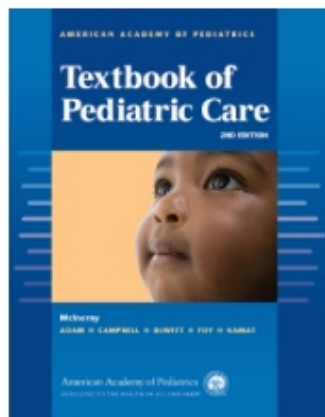


Therapeutic Use of Video Games & “Digital Medicine”

- Cognitive rehabilitation (ex. TBI)
 - Social Skills development for ASD
 - Anxiety, Stress, & Mood Disorders
 - Experiential exercises
 - PTSD treatment for Veterans (exposure therapy)
- “Akili’s prescription digital medicine is delivered through a creative and immersive action video game experience. Treatments leverage art, music, storytelling and reward cycles to keep patients engaged and immersed for the delivery of therapeutic activity with excellent compliance.”*



IGD



Part 2: PRINCIPLES OF CARE › Section 2: Preventive Pediatrics › Health Promotion in Practice

Chapter 43: Healthy Use of Media

Victor C. Strasburger, MD



SHARE



TOOLS

- Mindful Tech Use



Parenting Tips for the Digital Age

- **"Net Negotiations"** - productive dialog re technology use
- **"Digital Diet"** – keep a digital log to control/monitor how much consume
- **"Digital Nutrition"** - help make better choices what to consume; learn to choose between healthy/unhealthy content
- **"3-6-9-12 rules"** - Limit use of technology based on age & types of use
 - **Birth-3 years:** Never/Nowhere
 - **3-6 years:** One Hour a Day (learning (shapes), reading)
 - **6-9 years:** Supervised Use (supervised net, family games) (2hrs day) (no tech private)
 - **9-12 years:** Responsible Use (2hrs day) (no tech private) (social media)
 - **12-18 years:** Independence w/ parental oversight/availability



FIN

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