# IS INTERNET PORNOGRAPHY ADDICTION ALWAYS SEX ADDICTION, OR CAN IT BE SOMETHING ELSE?

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#### Disclosures & Conflicts of Interest

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



#### Videos – 18min

- Neuroscience 4min
  - Two Min Neuro 2min
  - Team of Rivals 2min
- Internet Addiction 1min
  - Crazy Ways SNS changing 1 min
- Gaming 4min
  - LoveChild -2min
  - WebJunkie 2min
- Porn 9 min
  - ReWired 4 min
  - Science of Porn Addiction 3min
  - Cooledge Effect 2min

#### "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



# **Neurobiology of Addiction**

- About reward, not pleasure
- Videos
  - Two Min Neuro 2min
  - Team of Rivals 2min



# Neurobiology of Addiction

- Withdrawal erroneously mistaken as requiring exogenous chemicals
  - Withdrawal is negative affect left behind when artificially elevated levels of DA are no longer being generated
- Tolerance is result of a homeostatic adaptation to whatever has been causing chronic levels of DA increase in the Reward Center (Drugs, Alcohol, Gambling, Sex/Porn, Games, etc.) - Need more to maintain desired state



#### **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...)



#### Addiction to <insert behavior or chemical here>



 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)



#### Modern Addictive Behaviors

- Exercise 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).



- First proposed as a satirical joke by Goldberg (1996)
  - Internet Addiction Disorder (IAD)
  - Joking announcement of Internet Addiction Support Group (IASG)
- Formally proposed as clinical issue by Dr. Kimberly Young (1996)
- Criteria based on combination of Pathological Gambling and Substance Abuse



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



- Assessment Instruments
- Young Diagnostic Questionnaire (YDQ), M-YDQ,
- Internet Addiction Test (IAT)
- Internet-Related Addictive Behavior Inventory (IRABI)
- Generalized Problematic Internet Use Scale (GPIUS) (GPIUS-2)
- Pathological Internet Use Scale (PIUS)
- Compulsive Internet Use Scale (CIUS)
- Problematic and Risky Internet Use Screening Scale (PRIUSS)
- Online Cognition Scale (OCS),

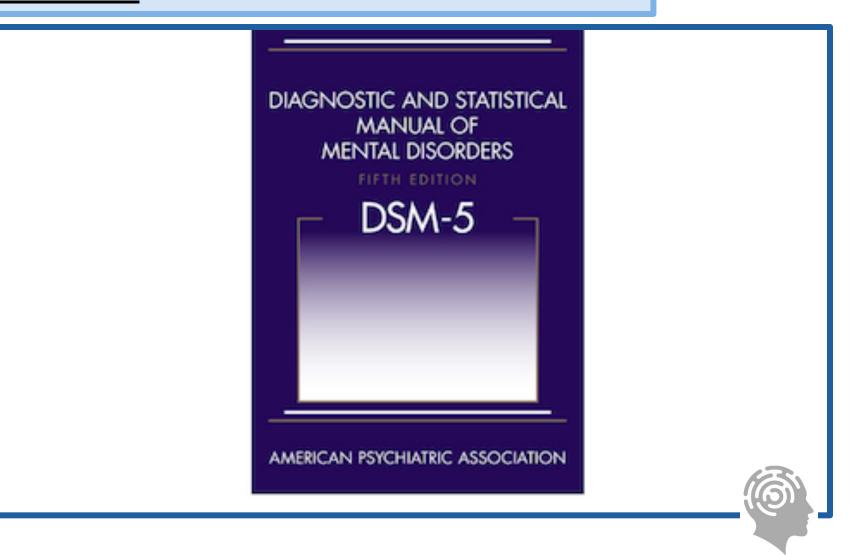
- Internet Addiction
  - Proposed for DSM-5
    - Block (2008) 4 key components: excessive use, withdrawal,
       tolerance, & adverse consequences
      - Subtypes: excessive gaming, sexual preoccupations, email/txt msg
      - Added later: Social networking (Yau, Crowley, Mayes, & Potenza, 2012)
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



- Internet Addiction
  - Controversey
    - Addictions TO vs ON the Internet (Griffiths, King, & Demetrovics, 2014)
    - Alcoholics not addicted to bottles (Kim & Kim, 2010), gamblers not addicted to casinos (Starcevic, 2013b)
    - "The main limitation of the DSM-5 Internet use disorder is that it is an over inclusive concept that does not actually refer to any specific addictions to the Internet" (King & Delfabbro, 2013a, p.21)



# **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



#### DSM-5 Inconsistencies and Controversies

- Thus, groups of repetitive behaviors, which some term <u>behavioral</u> <u>addictions</u>, with such subcategories as "sex addiction," "exercise addiction," or "shopping addiction," are <u>not included</u> because... there is <u>insufficient peer-reviewed evidence</u>... needed to identify these behaviors as mental disorders. (DSM-5, p. 481)
- · VS.
- Although some behavioral conditions that do not involve ingestion
  of substances have similarities to substance-related disorders, only
  one disorder—gambling disorder—has sufficient data to be
  included in this section. (DSM-5, p.586)

#### DSM-5 Inconsistencies and Controversies

...however, there are other behavioral disorders that show some similarities to substance use disorders and gambling disorder... and the one condition with a considerable literature is the compulsive playing of Internet games...The DSM-5 work group...found some behavioral similarities of Internet gaming to gambling disorder and to substance use disorders. (DSM-5, p. 586)

#### DSM-5 Inconsistencies and Controversies

- 14 references in DSM-5 to support the new IGD diagnosis:
  - 13 to peer-reviewed journals, 1 to a pop-culture magazine article
    - 3 specifically focused on Internet Gaming
    - 4 refer to gaming as one of three subtypes of Internet Addiction
    - 1 references gaming as one of ten subtypes of Internet Addiction
    - 3 intermix terms "gaming", "gambling" and "pornography"
    - 2 refer to "Internet use" generally with no subtypes



# **Speculative Conclusion #1**

- "Delivery Mechanism Argument"
  - Internet is but a delivery mechanism, can't be addicted to a delivery mechanism
    - "Alcoholics not addicted to bottles"

Easy solution: Require Subtypes



## Speculative Conclusion #2

#### Social/Politics

- Charles O'Brien, Chair of DSM-5 SUD Task Force:
  - "When you have the president talking about addiction to oil, the word has lost its pejorative tone" (O'Brien, as cited by Greenberg, 2010)
  - Regarding the omission of term Addiction from DSM-III-R a "serious mistake"
    - "In the case of substance use disorders, the medical world drastically needs a change in labeling. Addiction is a perfectly acceptable word" (O'Brien, Volkow, & Li, 2006a, p.764)



# Speculative Conclusion #3

- Poor research, logic, & editing
  - Research example: IA doesn't exist but IGD does, 14 references included to support this conclusion, with a majority based on IA and a minority based on IGD.
    - A ≠ B but B = A.
  - Logic example: Addiction doesn't exist, nor do Behavioral Addictions. Followed by regular use of both terms.
  - Editing example: (see next slide)



# DSM-5 IGD Risks & Prognostic Factors

- Genetic and physiological: "Adolescent males seem to be at greatest risk of developing Internet gaming disorder, and it has been speculated that Asian environmental and/or genetic background is another risk factor, but this remains unclear" (DSM-5, p. 797).
- Environmental: "Computer availability with Internet connection <sic> allows access to the types of games with which Internet gaming disorder is most often associated" (DSM-5, p.797).
- = Asians are genetically predisposed to developing Internet Gaming Disorder. (according to DSM-5)

# Internet Gaming Disorder

- #1 of 3 original subtypes of Internet Addiction
- Major problem in Asian countries
- 2 videos
  - Love Child 2min
  - Web Junkie 2min



## Internet Gaming Disorder

- Multiple terms:
- Online Gaming Addiction (Charlton & Danforth, 2007)
- Problem Video Game Playing (PVGP) (King et al. 2009)
- Video Game Addiction (Skoric et al. 2009)
- Problematic Online Game Use (POGU) (Kim & Kim, 2010)
- Internet Gaming Addiction (Kuss & Griffiths, 2012a)



## Internet Gaming Disorder

- Multiple Assessment instruments:
  - Problematic Video Game Playing (PVP) Scale
  - Assessment of Computer Game Addiction in Children Revised
  - Online Game Addiction Scale (OGAS)
  - Game Addiction Scale
  - Pathological Video Game Use Scale (PVGUS)
  - Video Game Dependency Scale
  - Problem/Problematic Online Game Use Scale (POGUS)
  - Computer/Gaming-station Addiction Scale (CGAS)



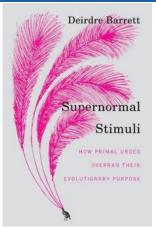
# Internet Pornography Addiction

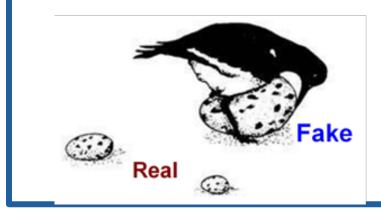
- 3 Videos
  - Science of Pornography Addiction 3min
  - REWIRED documentary 4min
  - Coolidge effect 2min



# Supernormal Stimulus

- Tinbergen
  - Bird Eggs & Butterfly Wings
- Deirdre Barrett







# Internet Porn = Supernormal Stimulus

 An exaggerated version of a normal stimulus that amplifies qualities we find especially compelling







#### Generational Difference/ Changing Times

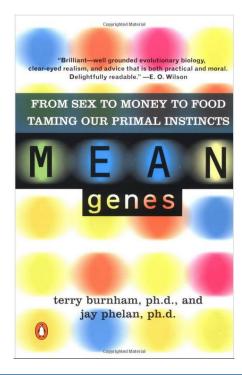


# **Evolutionary Mismatch**

 "All excessive stimulations of the reward circuitry that are not the behaviors for which it originally evolved are problematic....Like crack and Krispy Kreme donuts, Internet porn is another

manifestation of mismatch ...."

–Jay Phelan, PhD





# Dopamine and the Internet

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





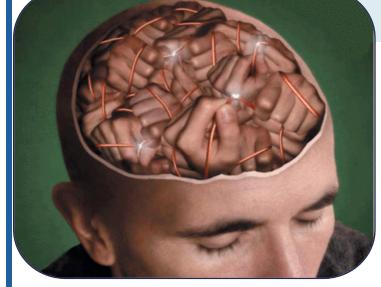
### Internet Pornography Addiction

- Myriads of studies on psychological, sociological, clinical, treatment, etc.
- Rapidly growing area of neuroscience research
  - 2015 Neuroscience literature review showing 300+ references
    - Love, T., Laier, C., Brand, M., Hatch, L., & Hajela, R. (2015). Neuroscience of Internet Pornography Addiction: A Review and Update. *Behavioral Sciences*, 5(3), 388-433.
  - More published since then



# **Neuroplasticity**

Neuroplasticity: the brain's ability to change and adapt as a result of experience



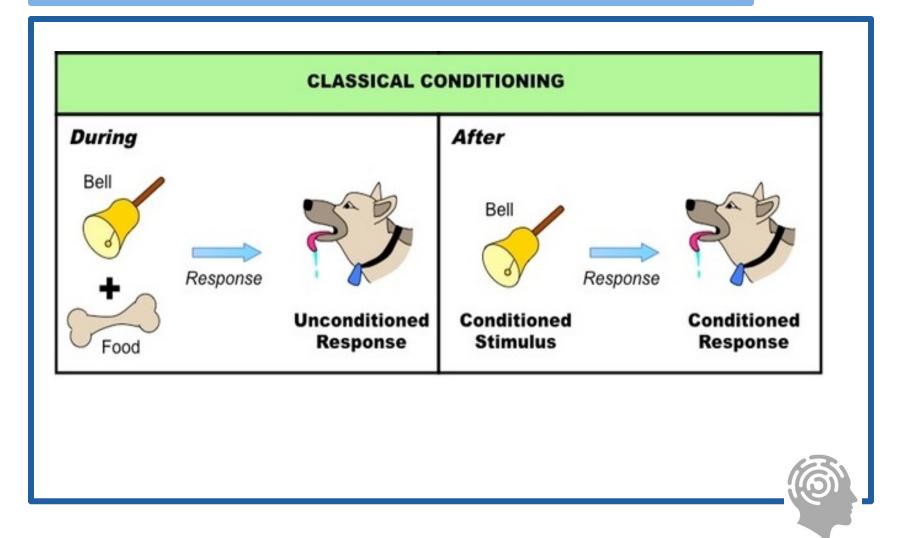


#### 1 - Sensitization

- "A super memory of pleasure"
- Rewired nerve connections cause the reward circuitry to buzz in response to addiction-related cues or thoughts. This Pavlovian memory makes the addiction more compelling than other activities in the addict's life.



# Conditioning & Learning



### 2 - Desensitization

- "A numbed pleasure response"
- Among other changes, dopamine and opioids decline, as do certain dopamine receptors and opioid receptors.



## 3 - Hypofrontality

- "Willpower erodes"
- Alterations in frontal-lobe gray matter and white matter correlate with reduced impulse control and the weakened ability to foresee consequences.



# 4 - Dysfunctional Stress Circuits

- Can make even minor stress lead to cravings and relapse because they activate powerful sensitized pathways.
- "Anti-Reward"
- "Dark Side of Addiction"
  - George Koob
    - Director, National Institute on Alcohol Abuse & Alcoholism
    - Scripps Research Institute



### Some Landmark Studies



"Brain Structure and Functional Connectivity Associated With Pornography Consumption: The Brain on Porn" --- May, 2014: *JAMA Psy.* 

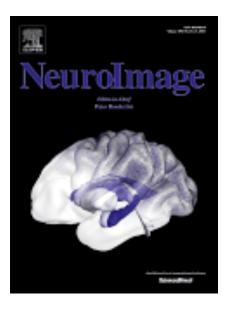
#### Lead author Simone Kühn said:

"That could mean that regular consumption of pornography more or less wears out your reward system."



## **More Recent Studies**

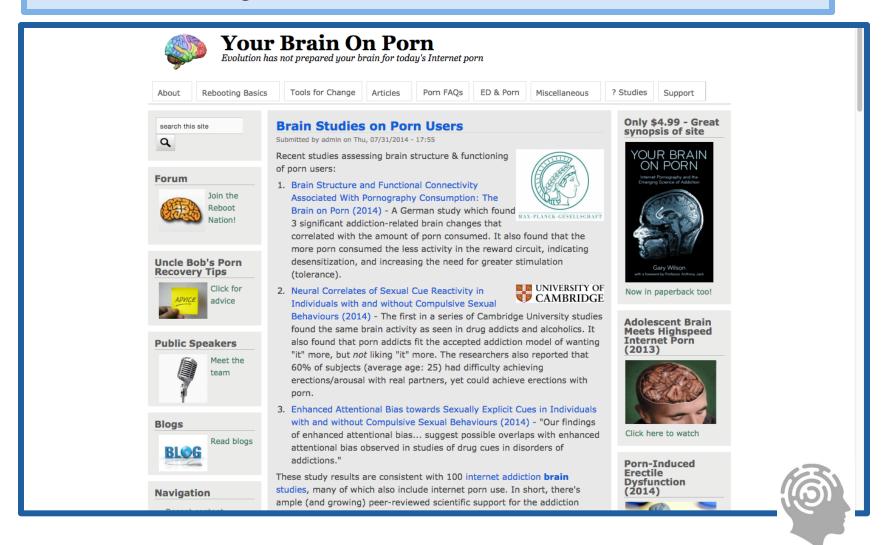
 Prefrontal control and internet addiction: a theoretical model and review of sdf







### YBOP — largest online resource



## Internet Pornography Addiction (IPA)

- #2 of 3 original subtypes of Internet Addiction
- Arguable spin-out from Sex Addiction / Hypersexual Disorder
  - Sex Addiction
    - Never formally proposed, no official subtypes
  - Hypersexual Disorder
    - Specify if masturbation, pornography, sexual behavior with consenting adults, cybersex, telephone sex, and strip clubs
- Alternate terms for "pornography"
  - SEM (Sexually Explicit Material)
  - VSS (Visually Sexual Stimuli)
- Alternate terms for IPA
  - PPU Problematic Pornography Use
  - PHB Problematic Hypersexual Behavior



### IPA – Assessment Instruments

- Internet Sex Screening Test (ISST) (Delmonico & Carnes, 1999)
  - obsession, loss of control, and significant life consequences.
- Cyber-Pornography Use Inventory (CPUI) (Grubbs, Sessoms, Wheeler, & Volk, 2010).
  - "Addictive Patterns", "Guilt Regarding Online Pornography Use," and "Online Sexual Behavior-Social"
- Pornography Consumption Effect Scale (PCES) (Hald & Malamuth, 2008)
- Pornography Consumption Inventory (PCI) (Reid, Li, Gilliland, Stein, and Fong, 2011)
  - Measures the motivations for the use of Internet pornography by men with hypersexual disorder (can be applied to addiction model).
  - four subscales: emotional avoidance, excitement seeking, sexual curiosity, and sexual pleasure.
  - Use for treatment planning



# <u>IPA – Assessment Instruments (cont)</u>

- Pornography Craving Questionnaire (PCQ-12) (Kraus & Rosenberg, 2014)
  - newly developed as a tool to measure levels of craving resulting from cue-induced stimuli.
- Problematic Pornography Use Scale (PPUS) (Kor et al., 2014).
  - Uses addiction paradigm not HD
- IATSEX (Brand et al.,2011)
  - Modified Young's (1998) original Internet Addiction Test (IAT)
  - More directed towards sexual behavior; specifically replaced the terms "online" with "online sexual activity" and "Internet" with "Internet sex sites."
- S-IAT (Laier, Pawlikowski, Pekal, Schulte, & Brand, 2013)
  - modified short version of the Internet Addiction Test (s-IAT) (Pawlikowski, Altstotter-Gleich & Brand)

## Potential etiologies for IPA

- "Crack Cocaine of Sex Addiction"
- Cooper's Triple-A Engine of Cybersex vulnerability
  - Affordability
  - Accessibility
  - Anonymity
- Neurobiology
- Classical Conditioning, Anticipation and arousal
- Internet Addiction Subtype

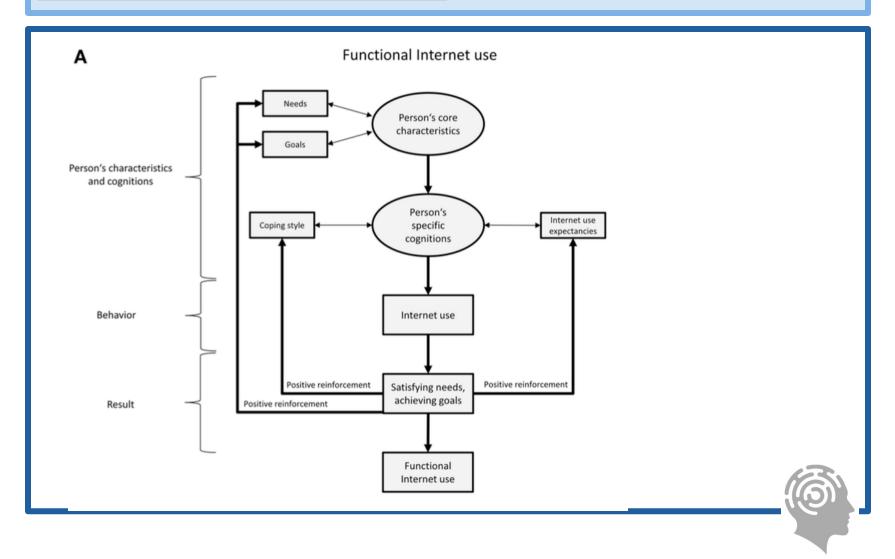


### Generalized/Specific Internet Addiction (GIA/SIA)

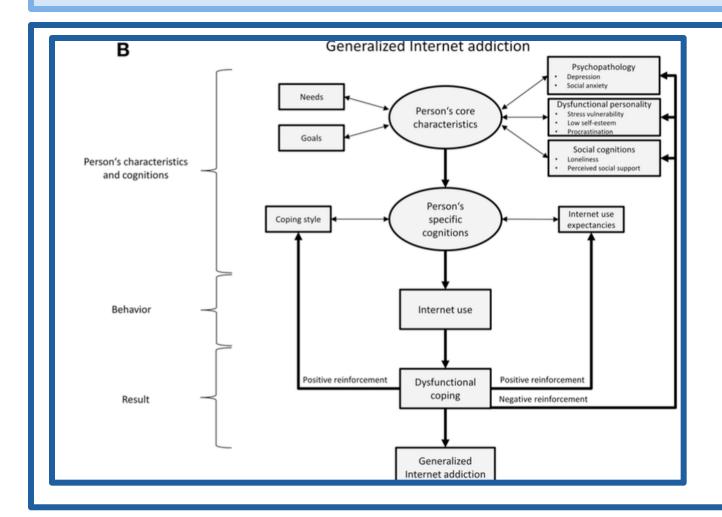
- "We believe that if an individual with GIA faces the situation that he/she is confronted with the possibility to go online (or to use a certain Internet application in an individual with SIA), these cues are so strong that the individual reacts relatively automatically with a wanting reaction. Cognitive control over this reaction is difficult if the expectancies that using the Internet would reduce craving and result in positive and/or negative reinforcement."
  - Brand, M., Young, K. S., & Laier, C. (2014). Prefrontal Control and Internet Addiction: A
    Theoretical Model and Review of Neuropsychological and Neuroimaging Findings. Front Hum
    Neurosci, 8, 375.



## **Functional Internet Use**

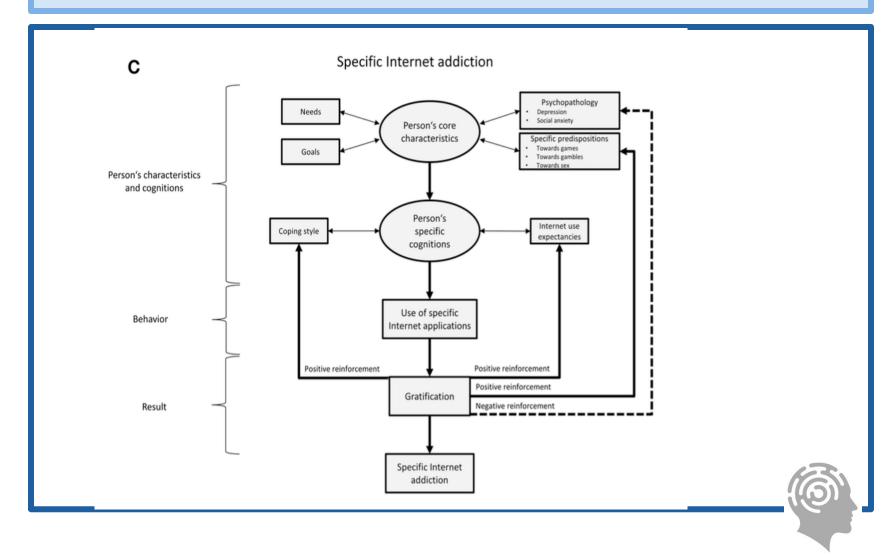


### Generalized Internet Addiction (GIA)





## Specific Internet Addiction (SIA)



### Porn as a "Specific Internet Addiction" (SIA)

- In recent articles, cybersex addiction is considered a specific type of Internet addiction. Some current studies investigated parallels between cybersex addiction and other behavioral addictions, such as Internet Gaming Disorder. Cue-reactivity and craving are considered to play a major role in cybersex addiction. Neuroimaging studies support the assumption of meaningful commonalities between cybersex addiction and other behavioral addictions as well as substance dependency.
  - Brand, M., & Laier, C. (2015). Cybersexsucht. Suchttherapie, 16(04), 173-178.

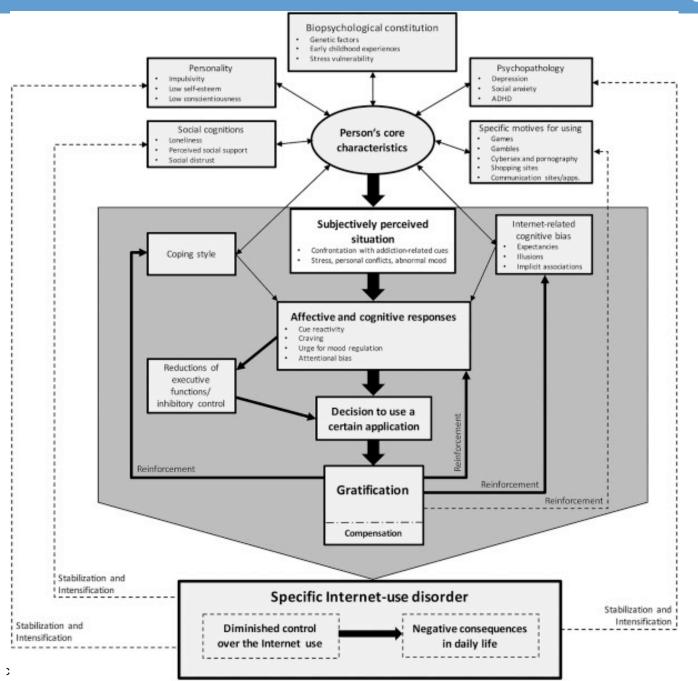


### I-PACE model

- Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internetuse disorders: An Interaction of Person-Affect-Cognition-Execution (I-PACE) model
  - Brand, M., Young, K., Laier, C., Wölfling, K., & Potenza, M. N. (2016).



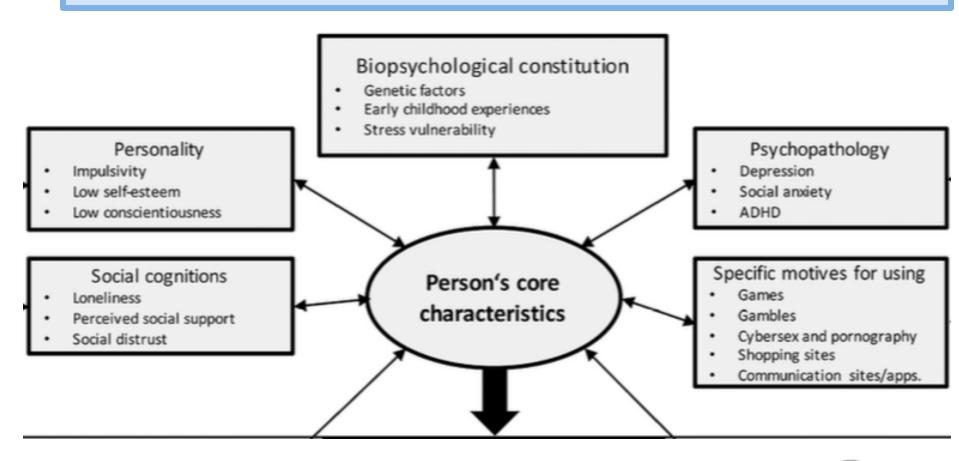






### Interaction of Person-Affect-Cognition-Execution (I-PACE) model

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





## Sex Addiction

- "Sex Addiction is an Attachment Disorder"
- "Sex Addiction is an Intimacy Disorder"
- Childhood trauma
  - Emotional 97%
  - Sexual 81%
- Family Systems
  - Rigid 77%
  - Disengaged 87%



### "A New Generation of Sexual Addiction"

- "Classic" vs. "Contemporary" Sex Addiction
- Classic
  - Hx of
    - Sexual, Physical, and Emotional Abuse
    - Impaired Attachment and Shame
    - Impulse Control Disorders
    - Cross addictions and comorbid mood disorders.
- Riemersma, J., & Sytsma, M. (2013). A New Generation of Sexual Addiction. Sex Addict Compulsivity, 20(4), 306-322.



### "A New Generation of Sexual Addiction"

### Contemporary

- Rapid-onset emerged with explosive growth of Internet porn
- Distinguished by "3Cs":

### Chronicity

Repeat exposure, neuroplasticity model (more or less)

#### Content

 Behaviors previously isolated or uncommon now easily accessible [via porn]...The power of suggestion & exposure is tremendous... creates addictive patterns where there was not awareness of, or interest in, those behaviors prior to exposure.

#### Culture

 Highly sexualized images & themes are commonly used in advertising, tv, movies, & music; impossible to avoid repeated exposure on a daily basis.

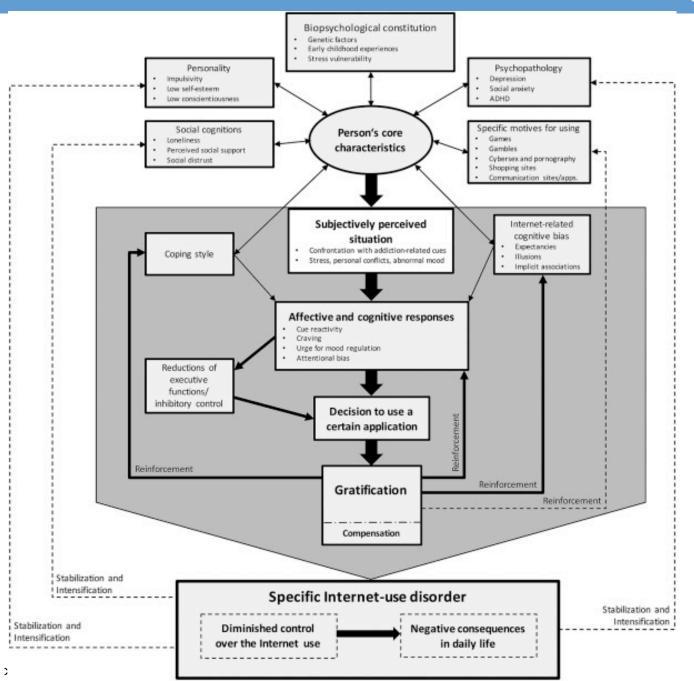
Riemersma, J., & Sytsma, M. (2013). A New Generation of Sexual Addiction. Sex Addict Compulsivity, 20(4), 30



### "Multiple Versions of Porn Addiction? More Discourse Needed!"

- Rob Weiss post on PT re expanding this model to porn addicts -
  - Porn Addicted (trauma based)
  - Porn Dependent/Conditioned (no trauma, can walk away)
  - Classic porn addicts will display both developmental trauma and delayed development
  - Contemporary porn addicts might only have the latter issue, delayed development.
  - Terminology "Sex/Porn Addicts"





## **OAT** model

- O Opportunity Induced
- A Attachment Induced
- T Trauma Induced

### Opportunity Addiction

 People with or without trauma or attachment issues

 Hall, P. (2013). A New Classification Model for Sex Addiction. Sex Addict Compulsivity, 20(4), 279-291.

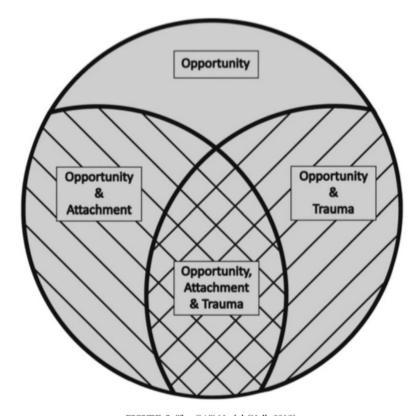


FIGURE 2 The OAT Model (Hall, 2012).



# **Differential Diagnosis**

- Offline sex behaviors?
- Other online compulsive behaviors?
- Self-identification



## Treatment Implications

- Potential for "latrogenic Harm" if misdiagnose and apply incorrect treatment model
- 12-step programs not always appropriate
  - Lack of Universality
    - Drastically different behavior patterns:
      - Is "Sex w/ prostitutes" comparable to "looking at pornography"?
  - Strict Abstinence vs Harm Reduction
  - "Spiritual Disorder"



### Treatment - ACT

- Acceptance and Commitment Therapy (ACT) (Twohig and Crosby, 2010)
  - Used w/ small group of clients (n=6), found an 85% reduction in compulsive viewing of Internet pornography.
- Crosby (2011)
  - Followed the above study with a randomized clinical trial of 28 clients
  - Found a 93% decrease in compulsive pornography viewing after completion of a 12-week program.



### Treatment - Naltrexone

- Bostwick & Bucci (2008) Mayo Clinic Case Study on the efficacy of Naltrexone in treating pornography addiction,
  - Decreased sensitization to porn use via loss of salience, essentially dismantling the impact of previous reward related learning.
- Raymond, Grant, and Coleman (2010) have confirmed similar results using Naltrexone to treat a range of compulsive sexual behaviors, including the compulsive use of pornography.



### Treatment – CBT-IA

- Young (2007) successfully utilized a cognitive behavioral model with a population of 114 subjects in her Internet recovery clinic.
  - 70% of the subject's problematic behaviors were sexually based (40% sex chat, 30% pornography viewing).
- Cognitive Behavioral Therapy for Internet Addiction (CBT-IA) (Young, 2011).
  - 1. Behavior modification
  - Cognitive restructuring
  - 3. Harm reduction



# Inpatient/Residential Options

reSTART

Bradford Regional Hospital



### Porn Induced Erectile Dysfunction (PIED)

Another Problem w/ Repeated Porn Use





# Sexual Conditioning

"This is what turns me on"

Being alone

**Fetishes** 

Voyeurism

Novelty

Shock & surprise



Multiple tabs

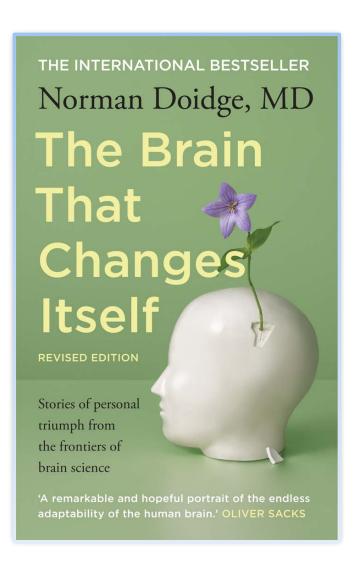
Genres

Multiple porn stars per session

Continuously searching & seeking



# **Confused Sexuality**



Adolescent/young adult males report progressing ("graduating") to more and more extreme or ego-dystonic forms of pornography in order to respond sexually.

- Gay porn by non gay males
- Transsexual pornography
- Underage pornography
- Important clinical consideration:
  - Sexual tastes NOT permanent
  - Porn tastes NOT sexual orientation

# Navy Study

- Is Internet Pornography Causing Sexual Dysfunctions? A Review with Clinical Reports
- Park, B. Y., Wilson, G., Berger, J., Christman, M., Reina, B., Bishop, F., ... & Doan, A. P. (2016). Is Internet Pornography Causing Sexual Dysfunctions? A Review with Clinical Reports. *Behavioral Sciences*, 6(3), 17.



### Recent International Studies

### French study:

Porto, R. (2016). Habitudes masturbatoires et dysfonctions sexuelles masculines.
 Sexologies.

### Belgian study:

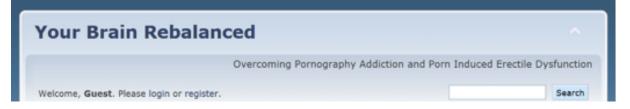
• Wéry, A., & Billieux, J. (2016). Online sexual activities: An exploratory study of problematic and non-problematic usage patterns in a sample of men. *Computers in Human Behavior*, 56, 257-266.



### Internet Support & Recovery Communities

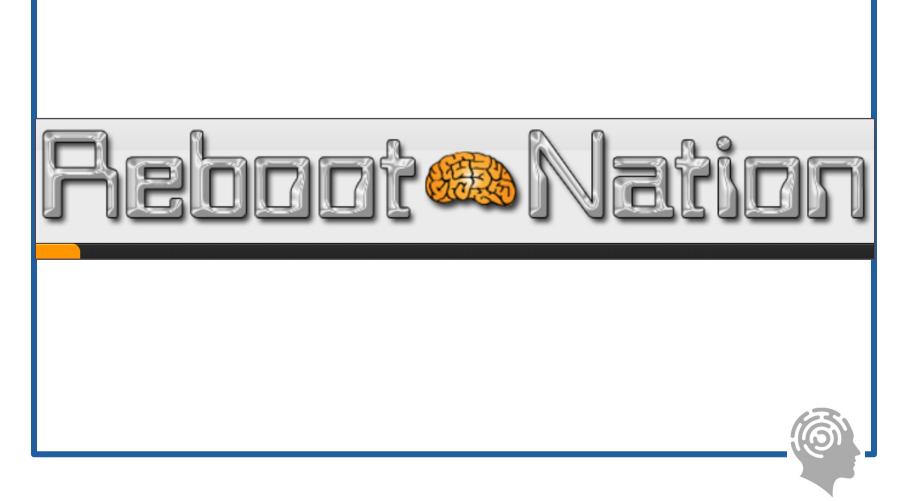








# Case Report – Gabe Deem



# Q&A

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