

ADDICTION

GAMING DISORDER
INTERNET BASED
ADDICTIONS
HYPERSEXUALITY
EATING DISORDERS
EXCESSIVE EXERCISING

GAMING ADDICTION



<https://www.youtube.com/watch?v=R83287N6kFg>

GAMING DISORDER – does it really exist?

- Computer games is one of the fastest growing entertainment industry (nowadays earning more than all world film industry)
- From “nerd-only” genre it evolved to attract more diverse social groups
- For the vast majority of gamers it is just a free-time activity without any harm – even phenomenon like induced aggressiveness was not proofed
- Computer games suffer from moral panic - similar to situation in film cinemas in 30s, comic books in 50s, TV in 60s – situation is judged by people who grew up without computer games and thus they tend to misinterpret it



Two Fanatic World of Warcraft Gamers Have Died Because Of WoW

Are there more to come?

The recent deaths of two net gamers have once again raised the issue of the impact of addiction on the online gaming community, and the health risks involved.

Silencers, how do they work? Harrison Ford crashes vintage plane on golf course

Gamer dies after playing World of Warcraft for 19 hours straight

Games By James Plafke Mar. 5, 2015 5:10 pm

PROMOTED STORIES
 Is it the beginning of the end for Apple?

A California Couple Is In Prison For Neglecting Children While Playing World Of Warcraft

Maya Kosoff Aug. 11, 2014, 10:38 AM 23,103 16

Author of *The Lucifer Effect*
PHILIP ZIMBARDO
& NIKITA COULOMBE

MAN DISCONNECTED

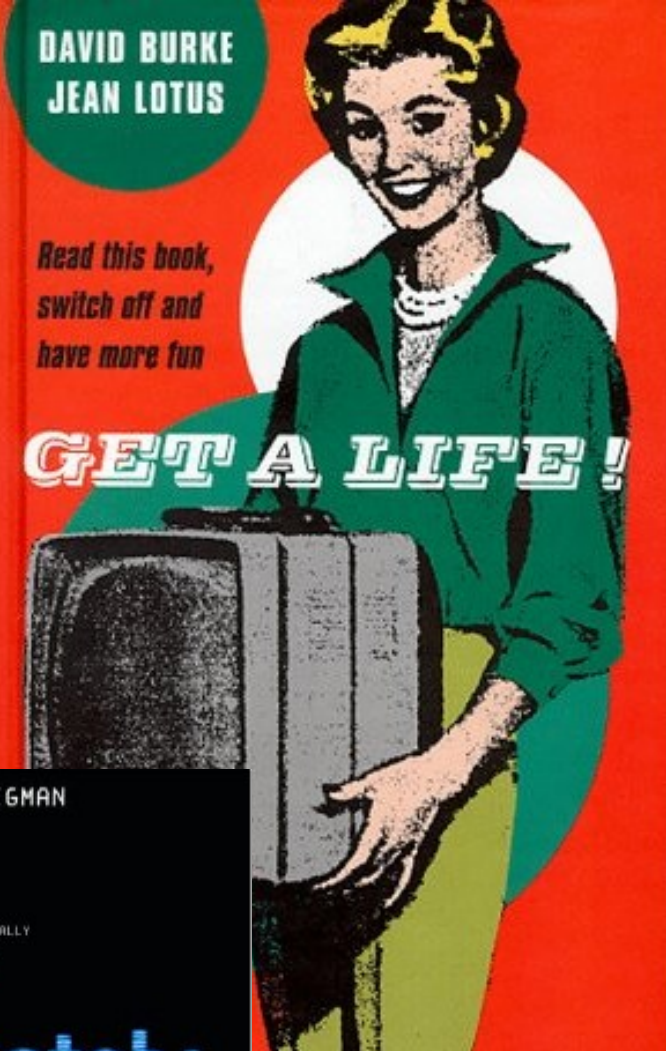
HOW THE DIGITAL AGE IS
CHANGING YOUNG MEN FOREVER





Neil Postman
Author of *The Disappearance of Childhood*
Amusing Ourselves to Death
Public Discourse in the Age of Show Business

FOUR ARGUMENTS FOR THE ELIMINATION OF TELEVISION
by Jerry Mander



THE PLUG-IN DRUG

Television, Children, and the Family
MARIE WINN

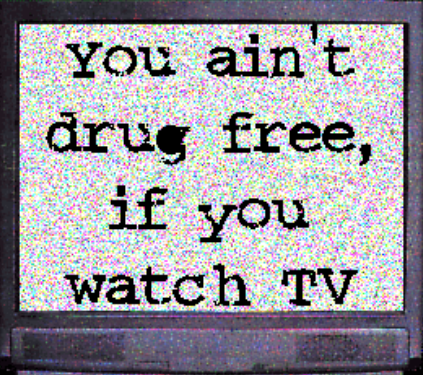
"This comes along at exactly the right moment... We must confront the challenge of his prophetic vision."
—Jonathan Kozol

Fresh Ideas for Enjoying Family Time

What To Do After You Turn Off The TV

by the author of *DIET FOR A SMALL PLANET*
Frances Moore Lappé and Family

DR ARIC SIGMAN
remotely controlled
HOW TELEVISION IS DAMAGING OUR LIVES
"HOW TV IS QUITE LITERALLY KILLING US!"
DAILY MAIL
"COMPELLING"
INDEPENDENT ON SUNDAY





NIV. 1-1

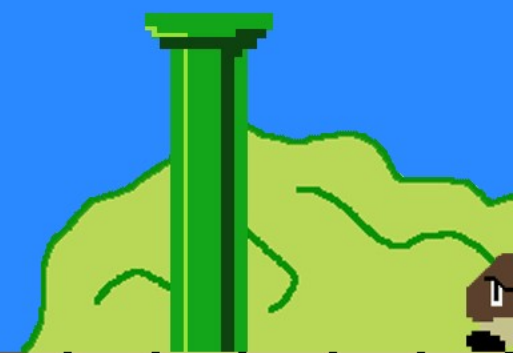
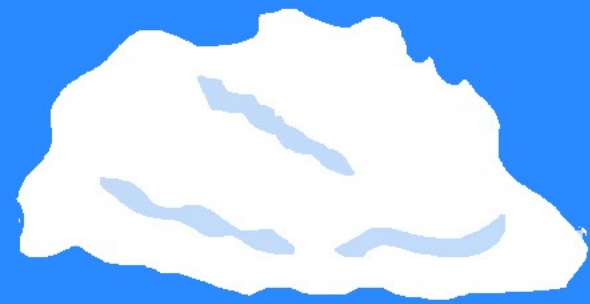
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LIFE: 🍄 X 02



GAMING DISORDER

- Intensity of gaming is much higher than any media usage before – online games are played about 20 hours per week, those with higher addictive potential about 35 hours per week on average
- The most successful games are still those targeting “standard nerds” –90% of gamers are younger men (teenagers and young adults)
- But we still know too little – only few neurological studies (however they support addiction model – intensive gamers have changes in reward pathway and prefrontal cortex similar to cocaine users) and too short longitudinal studies (we have no idea whether gaming disorder persists longer than 2 years)
- Even if the addiction model will not proof, intensive gaming is not healthy due to time devotion, unhealthy physical and social lifestyle: problems in school/work, lack of sleep, problems in social interactions, health problems (repetitive strain injuries,...)

Search internet gaming

[Advanced Search]

Foundation ?

Linearizations ?

Contributions

Info


- ▶ 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
 - ▶ 6C50 Gambling disorder
 - ▼ 6C51 Gaming disorder
 - 6C51.0 Gaming disorder, predominantly online
 - 6C51.1 Gaming disorder, predominantly offline
 - 6C51.Z Gaming disorder, unspecified
 - 6C5Y Other specified disorders due to addictive behaviours
 - 6C5Z Disorders due to addictive behaviours, unspecified
- ▼ Impulse control disorders
 - 6C70 Pyromania
 - 6C71 Kleptomania
 - 6C72 Compulsive sexual behaviour disorder
 - 6C73 Intermittent explosive disorder
 - ▶ Substance-induced impulse control disorders
 - ▶ 6C50 Gambling disorder
 - ▶ 6C51 Gaming disorder
 - 6E66 Secondary impulse control syndrome
 - ▶ 6B25 Body-focused repetitive behaviour disorders

Foundation Id : <http://id.who.int/icd/entity/1448597234>

6C51 Gaming disorder

Parent

Disorders due to addictive behaviours

Show all ancestors up to top 

Description

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

Exclusions

- Hazardous gaming (QE22)
- Bipolar type I disorder (6A60)
- Bipolar type II disorder (6A61)

All Index Terms

There are no index terms associated with this entity



Please read the Caveats

GAMING DISORDER

- Included in DSM-5 in appendix (exists as experimental diagnosis for scientific community to accumulate more data) as Internet Gaming Disorder
- Included in ICD 11 as Gaming Disorder (with variants “predominantly online” & “predominantly offline”). Gaming disorder, predominantly online is characterized by a pattern of persistent or recurrent gaming behaviour (‘digital gaming’ or ‘video-gaming’) that is primarily conducted over the internet and is 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.
 - 4) The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning.
 - 5) The pattern of gaming behaviour may be continuous or episodic and recurrent. The gaming behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.

DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS

FIFTH EDITION

DSM-5

AMERICAN PSYCHIATRIC ASSOCIATION

Internet Gaming Disorder

Proposed Criteria

Persistent and recurrent use of the Internet to engage in games, often with other players, leading to clinically significant impairment or distress as indicated by five (or more) of the following in a 12-month period:

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).
Note: This disorder is distinct from Internet gambling, which is included under gambling disorder.
2. Withdrawal symptoms when Internet gaming is taken away. (These symptoms are typically described as irritability, anxiety, or sadness, but there are no physical signs of pharmacological withdrawal.)
3. Tolerance—the need to spend increasing amounts of time engaged in Internet games.
4. Unsuccessful attempts to control the participation in Internet games.
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.
8. Use of Internet games to escape or relieve a negative mood (e.g., feelings of helplessness, guilt, anxiety).
9. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of participation in Internet games.

What games are suspects and why?

- MMO – Massively Multiplayer Online (e.g. World of Warcraft, Ever Online) & MOBA – Multiplayer Online Battle Arena (e.g. League of Legends, World of Tanks)
- Other game genres like Simulation games or First-Person Shooter games do not seem to be the problem. Offline games (traditional computer and video games) are not problem at all
- Important features (structural characteristics increasing addictive potential):

Social dimension – recognition, easy communication

Advancement & permanent rewarding

Permanent feedback – feelings of control

Persistent world – exist even when the person is offline, no-end and blurred time structure

Inclusion of reward mechanisms known from gambling (e.g. near miss, random reward boxes)

Risk factors of addiction

- Males of younger age
- Feelings of loneliness
- Low self-esteem and low self-efficacy
- Social anxiety and generally lower social competence
- Need for control, low flexibility
- Self-control difficulties and hyperactivity (e.g. ADHD) in younger age
- Higher alexithymia (decreased ability to reflect emotions) and mild autism-like personality
- Depressiveness

ADDICTION VS ENGAGEMENT

- Engagement – intensive game play that is not pathological

I feel happy at the thought of playing

I often experience a buzz of excitement while playing

- Addiction – intensive game play that could be labelled as pathological.
General addiction criteria used in most addiction-like behaviours -
conflicts, relapse, loss of control, escapism

I sometimes neglect important things because of an interest in...

I have made unsuccessful attempts to reduce the time I spend playing

I have used game play as a mean to escape from...

Are personality traits related to social functioning associated with gaming addiction and engagement?

FULL-LENGTH REPORT

Epub ahead of print: December 12, 2015
Journal of Behavioral Addictions 5(1), pp. 108–114 (2016)
DOI: 10.1556/2006.5.2016.002

Interpersonal dependency and online gaming addiction

KATEŘINA ŠKAŘUPOVÁ* and LUKAS BLINKA

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(Received: April 21, 2015; revised manuscript received: October 9, 2015; accepted: November 1, 2015)

Background and aims: The present study explores the relationship between social motivations and addiction to online gaming and if that possible connection can be explained by the personality traits responsible for social functioning. *Methods:* We employ Bernstein's concept of interpersonal dependency to distinguish healthy dependency, dysfunctional detachment, and destructive overdependence, and Charlton and Danforth's conceptualisation of online gaming addiction and high engagement. An online questionnaire was administered to a self-nominated sample of 4,074 online gamers. Two regression models were constructed to separately explain gaming addiction and high engagement using social motivations to play, while controlling for age, gender, and time spent online. *Results:* High scores on subscales measuring dysfunctional detachment and destructive overdependence were positively associated with online gaming addiction, while healthy dependency was negatively correlated with addiction scores. In contrast, the overall role of social motivation was negligible. *Discussion:* People with healthy relationship profiles are less likely to develop problematic patterns of online gaming. High in-game engagement, although sharing some factors with addiction, was only poorly explained by the study variables, suggesting the mutual exclusiveness of addiction and engagement.

Keywords: online gaming addiction, high engagement, interpersonal dependency, motivations to play

Interpersonal dependency and online gaming addiction

- Interpersonal dependency (Bornstein, 2003) - how cognition, motivation, affective responses, and actual behavioural patterns are affected by relationships to others
- *Healthy dependency* (autonomy but situation appropriate help-seeking)
- *Destructive overdependence* (fear of negative evaluation and reassurance seeking)
- *Dysfunctional detachment* (fear of being overwhelmed, need for control)

Table 2. Linear regression models for online gaming addiction (method: stepwise)

	Model 1			Model 2			Model 3		
	b	β	Sig.	b	β	Sig.	b	β	Sig.
Constant	1.81		<.01	1.81		<.01	1.14		<.01
Gender (Female = 1, Male = 2)	-0.04	-0.02	0.17	-0.03	-0.02	0.28	-0.01	0.00	0.79
Age	-0.01	-0.14	<.01	-0.01	-0.15	<.01	-0.01	-0.10	<.01
Frequency of gaming	0.01	0.30	<.01	0.01	0.29	<.01	0.01	0.27	<.01
Genre (MMORPG = 0, MOBA = 1)	0.08	0.08	<.01	0.08	0.08	<.01	0.08	0.09	<.01
Team play (TP)				-0.05	-0.06	<.01	0.02	0.02	0.26
Social support (SS)				0.06	0.10	<.01	0.06	0.09	<.01
Destructive overdependence (DO)							0.11	0.17	<.01
Dysfunctional detachment (DD)							0.14	0.17	<.01
Healthy dependence (HD)							-0.11	-0.13	<.01
F		146.75			104.12			131.50	
P		<.001			<.001			<.001	
R Square		0.14			0.15			0.25	

Table 3. Linear regression models for high engagement in online gaming (method: stepwise)

	Model 1			Model 2			Model 3		
	b	β	Sig.	b	β	Sig.	b	β	Sig.
Constant	2.59		<.01	2.50		<.01	2.01		<.01
Gender (Female = 1, Male = 2)	0.00	0.00	0.87	0.00	0.00	0.80	0.00	0.00	0.89
Age	-0.01	-0.16	<.01	-0.01	-0.14	<.01	-0.01	-0.13	<.01
Frequency of gaming	0.00	0.09	<.01	0.00	0.08	<.01	0.00	0.08	<.01
Genre (MMORPG = 0, MOBA = 1)	0.01	0.03	0.14	0.01	0.02	0.25	0.02	0.03	0.09
Team play (TP)				0.04	0.09	<.01	0.04	0.10	<.01
Social support (SS)				-0.01	-0.04	0.03	-0.02	-0.06	<.01
Destructive overdependence (DO)							0.02	0.07	<.01
Dysfunctional detachment (DD)							0.07	0.17	<.01
Healthy dependence (HD)							0.04	0.10	<.01
F		37.07			28.01			36.38	
P		<0.001			<0.001			<0.001	
R Square		0.04			0.04			0.08	

Is dysfunctional impulsivity associated with online gaming addiction and engagement?

Home > Vol 10, No 3 (2016) > **Dysfunctional impulsivity in online gaming addiction and engagement**

Blinka, L., Škařupová, K., & Mitterova, K. (2016). Dysfunctional impulsivity in online gaming addiction and engagement. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 10(3), article 5. <http://dx.doi.org/10.5817/CP2016-3-5>

Dysfunctional impulsivity in online gaming addiction and engagement

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Abstract

Impulsivity has been shown to be related to both substance- and non-substance addictions. In the case of internet gaming addiction, on one hand, higher impulsivity and sensation seeking have been reported in problematic online gamers. On the other hand, problematic online gamers were also identified as introverted, socially anxious, and generally inhibited in behaviour. Our study investigates the role of dysfunctional impulsivity in gaming addiction. A sample of 1,510 Czech and Slovak online gamers completed a questionnaire that was advertised online and targeted the core of the gaming community. Internet gaming addiction was measured using the Addiction-Engagement Questionnaire (Charlton & Danforth, 2010). Dysfunctional impulsivity was measured using the 11 items of Dickman's (1990) sub-scale of the Impulsivity Inventory. Pearson's correlation coefficients were calculated for variables and a regression model was constructed using hierarchical linear regression to determine the association between online gaming addiction and dysfunctional impulsivity, while controlling for age, gender, and the frequency of online gaming. A set of chi-square tests was employed to compare the patterns of addiction criteria among highly impulsive addicted gamers and non-impulsive addicted gamers. Although dysfunctional impulsivity was a good predictor of gaming addiction ($\beta = .252$), it actually explained only about 7% of the addiction variance. Problematic gamers high on impulsivity had similar patterns of addiction criteria as non-impulsive gamers, with only one exception – they had a significantly higher tendency to relapse. There was no role of impulsivity in gaming engagement. The results suggest that dysfunctional impulsivity is a risk factor for online gaming addiction (similar to other addictions), but it does not have prominent explanatory value in itself. Also, the results show that problematic gamers high on impulsivity are more prone to relapse and reinstatement.

Keywords: Dysfunctional impulsivity; impulsivity; gaming engagement; gaming addiction; internet gaming disorder

Table 2. Linear Regression Models for Online Gaming Addiction.

	Model 1			Model 2			Model 3		
	<i>b</i>	β	Sig.	<i>b</i>	β	Sig.	<i>b</i>	β	Sig.
Constant	1.96		.00	1.63		.00	1.46		.00
Gender (Female=1, Male=2)	0.05	-.03	.26	0.02	.01	.57	0.03	.02	.43
Age	-0.01	-.19	.00	-0.01	-.12	.00	-0.01	-.09	.00
Frequency of gaming				0.01	.32	.00	0.01	.29	.00
Dysfunctional impulsivity							0.51	.25	.00
<i>F</i>		27.23			75.12			88.11	
<i>p</i>		<.00			<.00			<.00	
<i>R Square</i>		.04			.13			.20	

Table 3. Linear Regression Models for High Engagement in Online Gaming.

	Model 1			Model 2			Model 3		
	<i>b</i>	β	Sig.	<i>b</i>	β	Sig.	<i>b</i>	β	Sig.
Constant	3.18		.00	2.98		.00	2.94		.00
Gender (Female=1, Male=2)	-0.15	-.11	.00	-0.17	-.12	.00	-0.16	-.12	.00
Age	0.00	.00	.05	0.00	.00	.10	0.00	.01	.70
Frequency of gaming				0.01	.25	.00	0.01	.24	.00
Dysfunctional impulsivity							0.12	.08	.00
<i>F</i>		11.42			38.91			31.45	
<i>P</i>		<.00			<.00			<.00	
<i>R Square</i>		.01			.07			.08	

Do people play under influence of substances and is that associated with addiction and engagement?

BRIEF REPORT

Journal of Behavioral Addictions 7(2), pp. 493–498 (2018)

DOI: 10.1556/2006.7.2018.27

First published online May 15, 2018

Gaming under the influence: An exploratory study

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(Received: August 25, 2017; revised manuscript received: February 28, 2018; accepted: March 24, 2018)

Background and aims: Association between substance use and excessive play of online games exists both in theory and research. However, no study to date examined playing online games under the influence of licit and illicit drugs.

Methods: We questioned a convenient online sample of 3,952 Czech online gamers on their experiences and motives of using caffeine, alcohol, tobacco, psychoactive pharmaceuticals, and illicit drugs while playing massive multiplayer online games (MMOGs). *Results:* The results showed low prevalence of illicit drug use while playing online games. Substance use was positively associated with intensity of gaming and both addiction and engagement; psychoactive substances with stimulating effect were linked to higher engagement and gaming intensity, whereas use of sedatives was associated with higher addiction score. Substance use varied slightly with the preference of game genre.

Discussion: Drug use while playing appears as behavior, which is mostly not related to gaming – it concerns mostly caffeine, tobacco, alcohol, or cannabis. For some users, however, drug use was fueled by motivations toward improving their cognitive enhancement and gaming performance.

Keywords: online gaming, addiction, engagement, substance use

Gaming under the influence

Table 1. Proportion of gamers using the substances while gaming, overall and by genre (%)

	Genres (% of users)					χ^2	(df)	Effect size	
	RPG	MOBA	FPS/TPS	Others	Total			Cramer's <i>V</i>	<i>N</i>
Caffeine	73.5	75.3	76.4	72.1	74.2	4.35	(3)	0.03	3,941
Tobacco	28.3	24.3	24.5	23.2	25.3	8.50	(3)	0.05	3,933
Alcohol	48.6	54.4	45.5	48.3	50.4	16.67	(3)	0.07	3,935
Cannabis/resin	12.9	16.7	15.1	11	14.2	16.41	(3)	0.07	3,930
Amphetamines	0.4	0.5	1.1	0.7	0.6	3.03*	(3)	0.03	3,938
Ecstasy/MDMA	0.9	0.5	0.7	0.2	0.6	3.50*	(3)	0.06	3,933
Cocaine	0.5	0.1	1.3	0.4	0.4	10.16*	(3)	0.02	3,928
Stimulant-type pharmaceuticals	0.4	0.2	0.2	0.2	0.3	1.31*	(3)	0.02	3,943
Hallucinogens (LSD/psilocybin)	1.4	1.2	0.7	0.9	1.1	2.02	(3)	0.04	3,939
Sedatives and tranquilizers	3.5	2.2	1.6	2.6	2.6	6.66	(3)	0.02	3,938
Legal highs	1.8	1.9	1.1	1.8	1.8	1.21	(3)	0.02	3,936

Note. RPG: role-playing games; MOBA: multiplayer online battle arena; FPS/TPS: first/third-person shooter game.

*For tables having the cells with expected values less than 5, the Fisher's exact test is reported.

Those under influence play more intensively: stimulant-type pharmaceuticals (+9.8 hr/week), Ecstasy/MDMA (+9.6), sedatives (+6.9), amphetamines (+6.2), caffeine (+3.8)

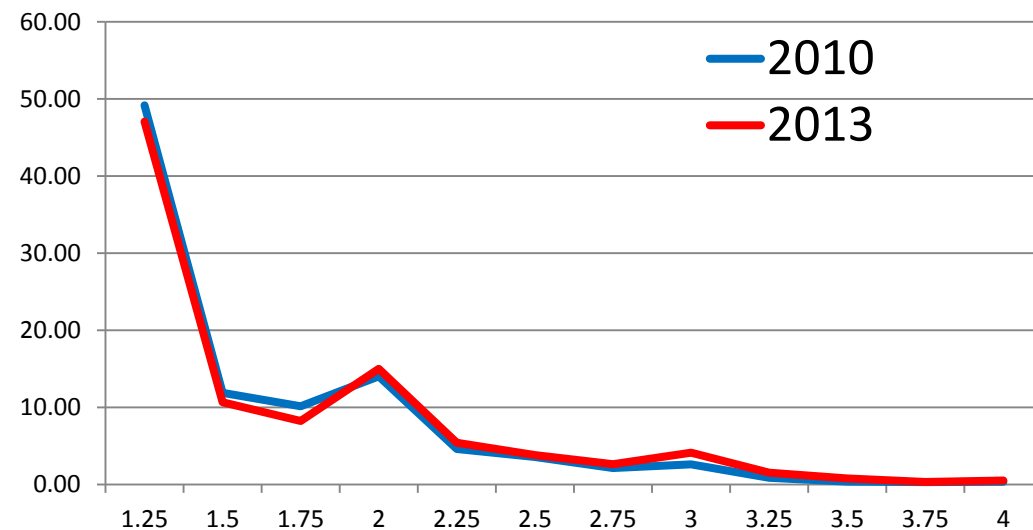
Game-related motives were mentioned by 1/3 of respondents: avoiding sleep (25.8%), increased concentration (15.6%), enhanced enjoyment (13.8%), tension management (7.3%), increased courage (4.1%), avoiding hunger, (2.7%), and insomnia management (2.0%).

Higher scores in addiction: sedatives (including alcohol), tobacco, tranquilizers (eliminating anxiety and fear)

Higher scores in engagement: stimulants, caffeine, ecstasy

OTHER INTERNET BASED ADDICTIONS

- **General internet addiction** (excessive internet use). Because the internet offers many platforms for entertainment, it is hard to track exactly what application is the most intensive. About 1% of teenagers show symptoms, about 4% at risk. Questionable whether it is really addiction (most likely not), plus high risk of false identification of addiction



MYTHBUSTERS

- Is there anything like social networking site addiction or smart phone addiction?
- Girls rather than boys
- Extroverted personality traits rather than introverted
- Poor self-control
- Narcissistic personality traits, procrastination

• If it is not addiction:

Need to belong & need to be in touch

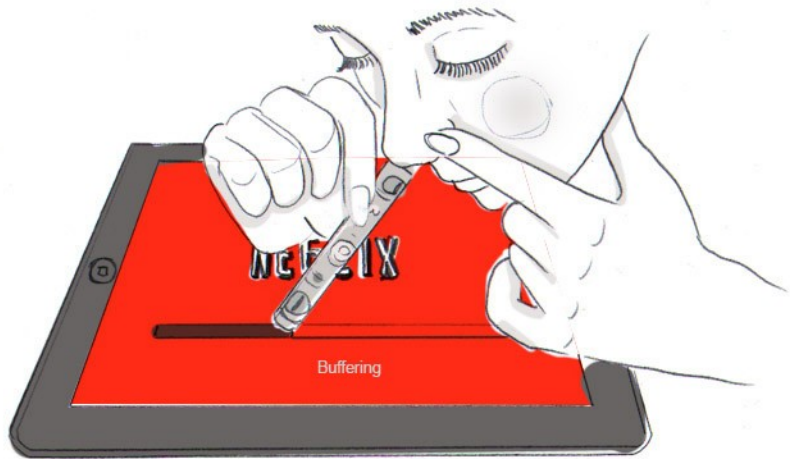
Fear Of Missing Out

Procrastination - mood & anxiety management



MYTHBUSTERS

- New addictions on the horizon?! Not really...





- If it is not an addiction, is it OK?
- Not really – *quid pro quo*: Time spend in digital media are often instead of time spend in healthier way
- So if we remove access to digital media, it should be ok, right?
- Not really – unstructured time activities tend to replace one another. Better lifestyle is not achieved by simply removing access to unhealthy activity.

The screenshot shows the top of the Federal Trade Commission website. The header includes the FTC logo, the text 'FEDERAL TRADE COMMISSION PROTECTING AMERICA'S CONSUMERS', and navigation links for 'Contact', 'Stay Connected', 'Privacy Policy', and 'FTC en español'. A search bar is also present. Below the header is a navigation menu with links for 'ABOUT THE FTC', 'NEWS & EVENTS', 'ENFORCEMENT', 'POLICY', 'TIPS & ADVICE', and 'I WOULD LIKE TO...'. The main content area features a breadcrumb trail: 'Home » News & Events » Press Releases » Lumosity to Pay \$2 Million to Settle FTC Deceptive Advertising Charges for Its "Brain Training" Program'. The headline of the press release is 'Lumosity to Pay \$2 Million to Settle FTC Deceptive Advertising Charges for Its "Brain Training" Program'. Below the headline is a sub-headline: 'Company Claimed Program Would Sharpen Performance in Everyday Life and Protect Against Cognitive Decline'. To the right of the headline is an 'EVENTS CALENDAR' button. Below the headline are social media sharing icons for Facebook, Twitter, and LinkedIn, with the text 'SHARE THIS PAGE'. A 'FOR RELEASE' box is visible, along with the date 'January 5, 2016'. The 'TAGS' section includes 'Bureau of Consumer Protection', 'Consumer Protection', 'Advertising and Marketing', 'Health Claims', and 'Online Advertising and Marketing'. The main text of the press release begins: 'The creators and marketers of the Lumosity "brain training" program have agreed to settle Federal Trade Commission charges alleging that they deceived consumers with unfounded claims that Lumosity games can help users perform better at work and in school, and reduce or delay cognitive impairment associated with age and other serious health conditions.' To the right of this text is an image of a human head profile with a glowing brain. At the bottom, a partial sentence reads: 'As part of the settlement, Lumos Labs, the company behind Lumosity, will pay \$2 million in redress and will notify subscribers of the FTC action.'

Contact | Stay Connected | Privacy Policy | FTC en español

Search

ABOUT THE FTC | NEWS & EVENTS | ENFORCEMENT | POLICY | TIPS & ADVICE | I WOULD LIKE TO...

Home » News & Events » Press Releases » Lumosity to Pay \$2 Million to Settle FTC Deceptive Advertising Charges for Its "Brain Training" Program

Lumosity to Pay \$2 Million to Settle FTC Deceptive Advertising Charges for Its "Brain Training" Program

Company Claimed Program Would Sharpen Performance in Everyday Life and Protect Against Cognitive Decline

EVENTS CALENDAR

SHARE THIS PAGE   

FOR RELEASE

January 5, 2016

TAGS: [Bureau of Consumer Protection](#) | [Consumer Protection](#) | [Advertising and Marketing](#) | [Health Claims](#) | [Online Advertising and Marketing](#)

The creators and marketers of the Lumosity "brain training" program have agreed to settle Federal Trade Commission charges alleging that they deceived consumers with unfounded claims that Lumosity games can help users perform better at work and in school, and reduce or delay cognitive impairment associated with age and other serious health conditions.



As part of the settlement, Lumos Labs, the company behind Lumosity, will pay \$2 million in redress and will notify subscribers of the FTC action

Related Cases

[Lumos Labs, Inc. \(Lumosity Mobile and Online Cognitive Game\)](#)

Related Refunds

[Lumosity Refunds](#)

Related Actions

[Concurring Statement of Commissioner Julie Brill In the Matter of Lumos Lab, Inc. \("Lumosity"\), Kunal Sarkar, and Michael Scanlon](#)

SEX ADDICTION & HYPERSEXUALITY

- First described by Benjamin Rush in 1812, then described by Krafft-Ebbing in *Psychopathia Sexualis*
- Alfred Kinsey: 7 orgasm per day – 8% of population of males between teens-30.
- But what is within the norm?
- ICD 10 includes two potential diagnosis: “**Excessive Sexual Drive**” (F52.7, within block Behavioural syndromes associated with physiological disturbances and physical factors) but without formal diagnostic criteria (!) and with sub-labels *satyriasis* and *nymphomania*. “**Excessive Masturbation**” (F98.8, within block specified behavioural and emotional disorders with onset usually occurring in childhood and adolescence)
- DSM-5 does not include hypersexuality
- ICD 11 does include hypersexuality
- Since there is no consensus yet, many terms and approaches exist: *donjuanist*; *nymphomaniac*; *Messalina complex*; *sexaholic*; *onanist*; *erotomaniac*,...

addiction vs hypersexuality

- Both approaches agree that it must be 1) the most important activity (salience) 2) repetitive with unsuccessful attempts to stop or reduce (loss of control & relapse) 3) predominantly used in dysphoric mood states (mood management) 4) causing personal and interpersonal problems
- Addiction model also includes 5) negative mood states when unable to perform sexual act (withdrawal) and 6) need to increase intensity (tolerance)
- They may to some point differ in the treatment approaches (they also differently evaluate masturbation). Sexologists may be more focused on “unsettled sexual identity” as the source of hypersexuality and using techniques like finding healthy sexuality (supporting playful and creative sexuality, building up intimacy,...)
- In addiction model it is seen as learned behaviour that can be potentially unlearned through building up peer support system, relapse prevention, reducing shame, supporting healthy coping skills

ICD 11: Compulsive sexual behaviour disorder

- Compulsive sexual behaviour disorder is characterized by a persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour. Symptoms may include
 - 1) repetitive sexual activities becoming a central focus of the person's life to the point of neglecting health and personal care or other interests, activities and responsibilities
 - 2) numerous unsuccessful efforts to significantly reduce repetitive sexual behaviour; and
 - 3) continued repetitive sexual behaviour despite adverse consequences or deriving little or no satisfaction from it.
 - 4) The pattern of failure to control intense, sexual impulses or urges and resulting repetitive sexual behaviour is manifested over an extended period of time (e.g., 6 months or more), and causes marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning.
 - 5) Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviours is not sufficient to meet this requirement.
- **Exclusions:** Paraphilic disorders (atypical sexual arousal, manifested by sexual thoughts, fantasies, urges, or behaviours, the focus of which involves others whose age or status renders them unwilling or unable to consent)

Comorbidity and risk factors

- Anxiety, depression, loneliness
- Higher impulsivity
- Low self-worth, high self-hatred, shame
- Substance use – alcohol, amphetamine, cocaine and other behavioural addictions (gambling, eating disorders) = *addiction interaction disorder* – several addictive-like disorders coexist together and make the situation worse than each of the separately
- History of sexual abuse
- Insecure attachment style, avoidance in relationships

Preferred activities in sex-addicts

- Only normophilic activities count
- Masturbation
- Porn and fantasy sex
- Voyeurism
- Anonymous sex
- Paying for sex
- Intrusive sex (boundary violation)
- Exhibitionism
- Sex addicts are generally bad in sex – high level of sexual dysfunctions and often periods of sobriety. They do not have interest in “normal” sex

Negative consequences

- lower capacity to devote free time to their children, family, and partners. Gradually increasing risk of condemnation and following social problems
- self-degradation and feelings of self-disgust and shame
- self-destruction or stagnation in their personal lives or careers
- Erectile problems, penis pain due to excessive masturbation
- physical exhaustion, lack of sleep
- Reducing women to sexual objects

FOOD / EATING ADDICTION



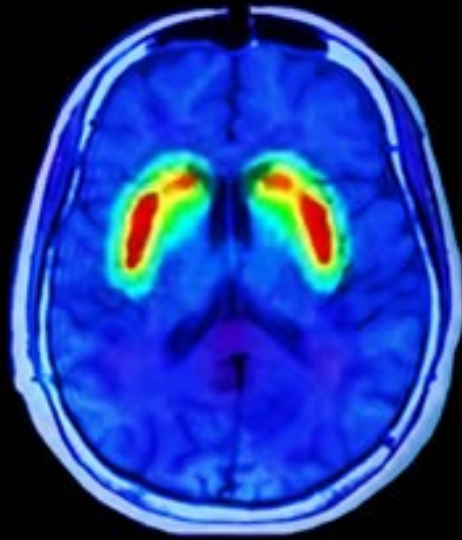
Obesity epidemic

- Prevalence – between 25-40% in developed societies – number tripled in last 20 years but currently is not that growing. The most significant growth in children (even under 5 years - where is about 6% obese).
- Dramatic increase in developing societies (Asia)
- Major cause of type 2 diabetes – and many other diseases (certain cancers, heart and veins diseases,...)
- Treatment of obese people up to 30 times more expensive

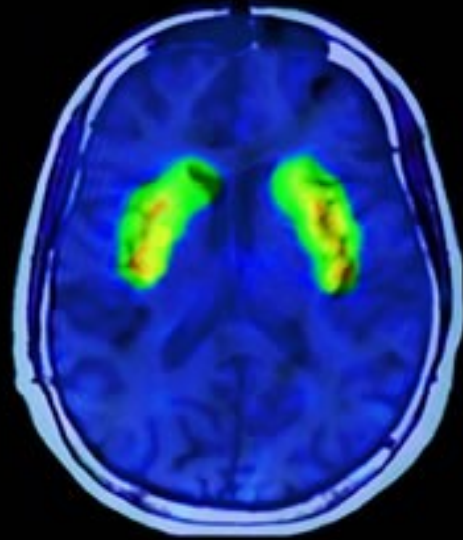
Food addiction?

- Unlike drugs, food consumption is normative
- Eating disorders: obesity - binge eating – bulimia nervosa - anorexia nervosa - various dieting
- Various patterns in various eating disorders. The most relevant – binge eating
- Similar neurochemical effects as in other substance addictions
- Especially in fat and double especially in sugar – sugar can start cycle of craving-binging-withdrawal-craving
- Confirmed also from animal studies – sugar consumption initiated in very early age leads to craving/binging in adulthood
- Anxiety, stress and depression starts craving for carbohydrates (but not e.g. for proteins) - carbohydrates and especially sugar can mediate dysphoric mood
- Sugar is preferred by addicts in withdrawal states (e.g. in smokers)
- Half of binge eaters (obese) meet criteria for addiction

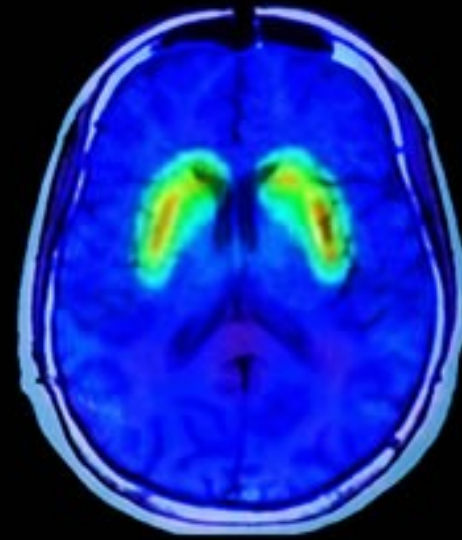
Normal



Cocaine



Obese



Are food restrictions addictive?

- Example Anorexia nervosa (about 0.5-1% of western population, especially women. Over time, approximately 50%-60% recover, 20%-30% partially recover, and 10%-20% remain chronically ill – death rate 11% !) heritability similar to substance addictions. Typical comorbidity – perfectionism, anxiety
- food restriction has been shown to increase the reinforcing effects of various drugs in humans and animals
- Anorexia nervosa is similar to addiction:
 - begin during adolescence, and often begin as a
 - Both are conscious decision to engage in a behaviour (i.e., consume a drug or go on a diet)
 - Over time individuals report uncontrollable drive to pursue the maladaptive behaviour
 - They narrow their behavioural and cognitive repertoire so that weight loss and food restrictions become the most important in their life
 - They engage in dietary restriction as a mechanism for modulating anxiety and dysphoric mood (in much the same way individuals with substance abuse modulate mood with drug use).
 - When food occurs, anxiety increases in a similar manner to anxiety often reported during periods of drug abstinence, e.g. withdrawal.
- Starvation and hunger increase level of endogenous opioids – however, it is probably not enough

Food addiction - definition

- a pervasive and enduring pattern of both food perception and food-related behavior leading to either excessive food ingestion or aversion with food in harmful and unhealthy ways.
- Such pattern continues, despite knowledge of its harmful consequences.
- Food addicts usually present both a tolerance (i.e. a need to increase participation in their harmful relationships with food over space and time) as well as a form of withdrawal (i.e. an inability to escape their addiction with food without suffering undue anxiety, craving, or other adverse reactivity which may include depression or anger) when deprived of access to addictive foods.
- This latter emotional and behavioral reactivity must reliably occur during efforts to either alter or disrupt the food addict's harmful and maladaptive pattern of eating.



Food and Addiction Science & Treatment Lab

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YALE FOOD ADDICTION SCALE

The Yale Food Addiction Scale (YFAS; Gearhardt, Corbin, & Brownell, 2009) is the first measure designed specifically to assess signs of addictive-like eating behavior. The YFAS allows for a more systematic examination of the hypothesis that ultra-processed foods (e.g., French fries, milkshakes) might trigger an addictive process for certain people. The YFAS includes 25 items and translates the diagnostic criteria for substance dependence as stated in the DSM-IV (American Psychiatric Association, 2000) to relate to the consumption of calorie-dense foods (e.g., high in refined carbohydrates and fat). The scale includes items that assess specific criteria, such as diminished control over consumption, a persistent desire or repeated unsuccessful attempts to quit, withdrawal, and clinically significant

- [Download the YFAS](#)
- [Download the modified YFAS](#)
- [Download the YFAS for Children](#)
- [Download the YFAS 2.0](#)

<http://fastlab.psych.lsa.umich.edu/yale-food-addiction-scale/>

EXCESSIVE EXERCISING

- It is not an official diagnosis
- Described in 70s
- At first understood rather only as “activity based anorexia” - common co-occurrence with eating disorders
- Primary vs secondary ex. ex. - **Primary** when there is ex.ex. without any further eating pathology (mainly bulimia or anorexia) – more common in men.
Secondary ex.ex. when it is aspect/symptom of eating disorder – more common in women, more associated with mood disorders like depression, bipolar disorder
- Exercising is in more days than not; it is of high intensity (typically 3 hours a day); does not have enough variation (it is stereotypical); the person reacts negatively to change of the routine; the person reacts negatively when unable to do the exercise; there are significant problems due to ex.ex. (personal problems, physical problems).

How is such addiction possible?

- Early explanations - opioid endogenous system – but unlikely
- More probable explanation: it affects dopaminergic reward pathways: 1) short term effect in humans - significant mood lift in/after intensive training 2) long term effect in animals – decreased availability of dopamine receptors after intensive physical activities over time
- Activity based anorexia may have evolutionary basis – also animals tend to do high energy activities when they are starving
- Social reinforcement – fitness is seen as highly desirable, attractive, prestigious
- Negative reinforcement – negative mood swings, anxiety, flu-like sensations, irrational cognition (e.g. about one's body) often follow when exercising is not possible. More intensity exercising is then sought which results into more muscle fatigue and injuries.

Negative effects

- High intensity exercising over time often leads to lack of energy, physical and psychological exhaustion, lack of experiencing pleasure
- Overtraining results into frequent injuries, deficit of immune system and illnesses, changes in endocrine system and inability to reproduce
- Overtraining without resting phases leads to no more body benefits (e.g. no muscle growth)
- Interpersonal problems

ANABOLIC ANDROGENIC STEROIDS



Russian Olympic team's drug usage could have long term effects on athletes' health

Over 100 athletes banned from the Rio Olympics after proof of a state-run doping program also need to worry about the health impacts of steroids. So do those who used the team's drug cocktail but were never tested and caught



▲ Russia's Ivan Ukhov, who won gold in London, competes in the men's high jump at a track and field meet called "Stars of 2016" in Moscow on 28 July, 2016. The event hosted athletes who have been banned from the Rio

ANABOLIC-ANDROGENIC STEROIDS

- Include testosterone and synthetic derivatives of testosterone that have muscle building properties (anabolic) and masculinizing properties (androgenic) – these two main effects are always together (corticosteroids are chemically similar but have different biological effect and do not affect muscle gain)
- Used in cycles – taken for some limited period of time only. A person usually has several such cycles in lifetime. Addicted people have shorter breaks between cycles or take AAS continuously.
- Massive growth in general public during 80s (culture of action heroes)
- After period of decrease, even greater increase currently – also in women
 - 1) Popularity of sports like CrossFit & Strength athletics
 - 2) Use in treatment of HIV and AIDS lead to increased availability on the market
 - 3) AAS availability in other forms than injections (patches & gels)

addiction

- Anabolic pathway – many users suffer from body dysmorphic disorder – they are massively concerned with their muscles and muscle gains (reverse anorexia nervosa), over time their concern even grows (as effect of AAS decreases with prolonged use)
- Androgenic pathway – decreases natural production of testosterone, causes testicular atrophy – loss of reproductive capacity, loss of sex drive, loss of enthusiasm, increase in depressiveness and suicide tendencies. It takes months to reverse these effects after last dose of AAS. Taking AAS may weaken these natural effects – self-medication

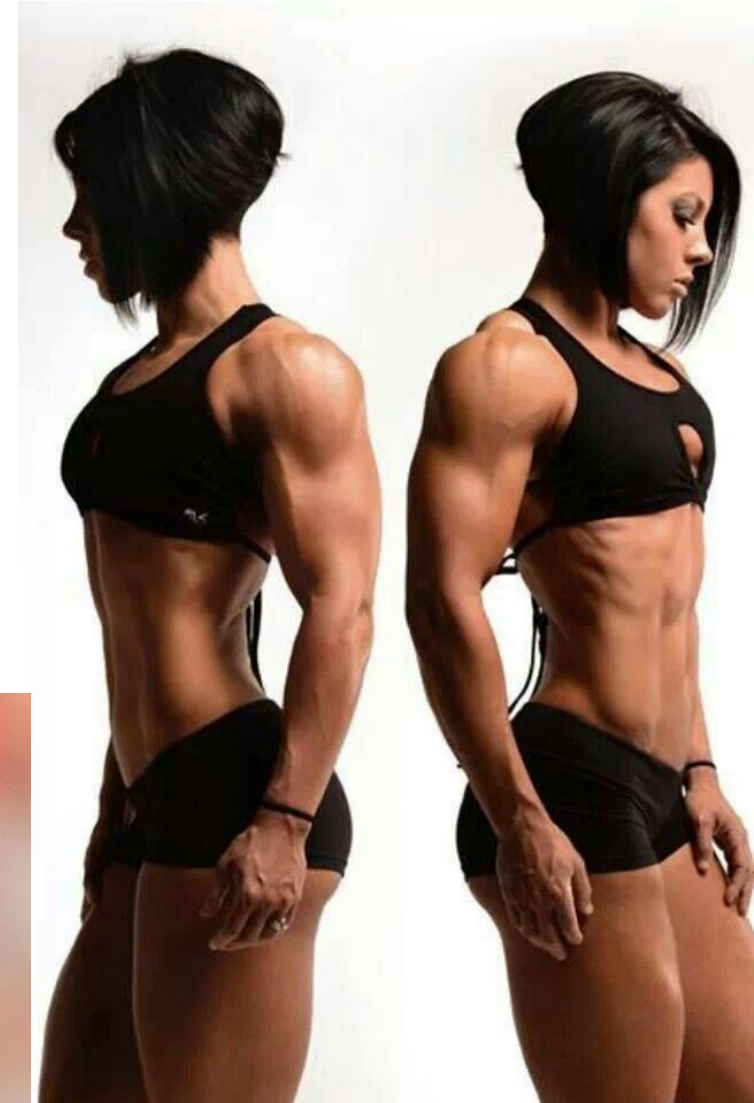
addiction

- Dopaminergic pathway – evidence from animals studies – conditioned place preference proofed to work in rats; self-administered AAS caused death by overdose in some hamsters; effects of AAS was stronger when administered into brain.
- Neurological effect is not completely understood. It seems AAC binds to receptors in nucleus accumbens and are affecting opioid receptors
- Opioid antagonist given to hamsters blocks the ACC self-administration in hamsters
- Observation in humans – AAC users have much higher prevalence of opioids use than users of other drugs
- Some early confirmation that treatment used in opioid addicts is helpful in AAC addicts

health effects

- Strong cardiovascular effects – many cases of premature deaths – thrombotic effect, myocardial toxicity
- Effect on reproduction system and inability to reproduce
- In women significant voice change, significant body hair grow, clitoris grow, facial changes (more dominant chin, acne), a need for breast implants

<https://www.youtube.com/watch?v=K2V7YQhsFo4>



Psycho-social effects

- Mania and hypomania – euphoria, hyperactivity, boosted self-confidence, hypersexuality, irritability, aggression, violence - including domestic violence, extreme aggression and even murders were reported under influence of AAS – but that is also influenced by personality (aggressive tendencies prior to AAS use) and hypermasculine culture
- Major depression may develop as a withdrawal symptom
- Problems associated with AAS will only grow as its polarity is steeply growing
- But should it be banned?