

**UNC School of Social Work  
Clinical Lecture Series**

**New Frontiers in the Addictions:  
Recent Developments  
in the Behavioral Addictions**

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# Outline

- I. Recent Developments in the Behavioral Addictions
  - A. Books
  - B. Behavioral Addictions in DSM-5
  - C. Commonalities of SUDS and Behavioral Addictions

# Outline (cont)

- II. The Neurobiology of Addiction:
- Toward a Unifying Model of SUDs and Behavioral Addictions

# Outline (continued)

- III. Conceptualization, Epidemiology, Assessment, and Treatment of 8 Behavioral Addictions
  - A. Compulsive Buying/Shopping
  - B. Tanning Addiction
  - C. Exercise Dependence
  - D. Love Addiction
  - E. Sexual Addiction

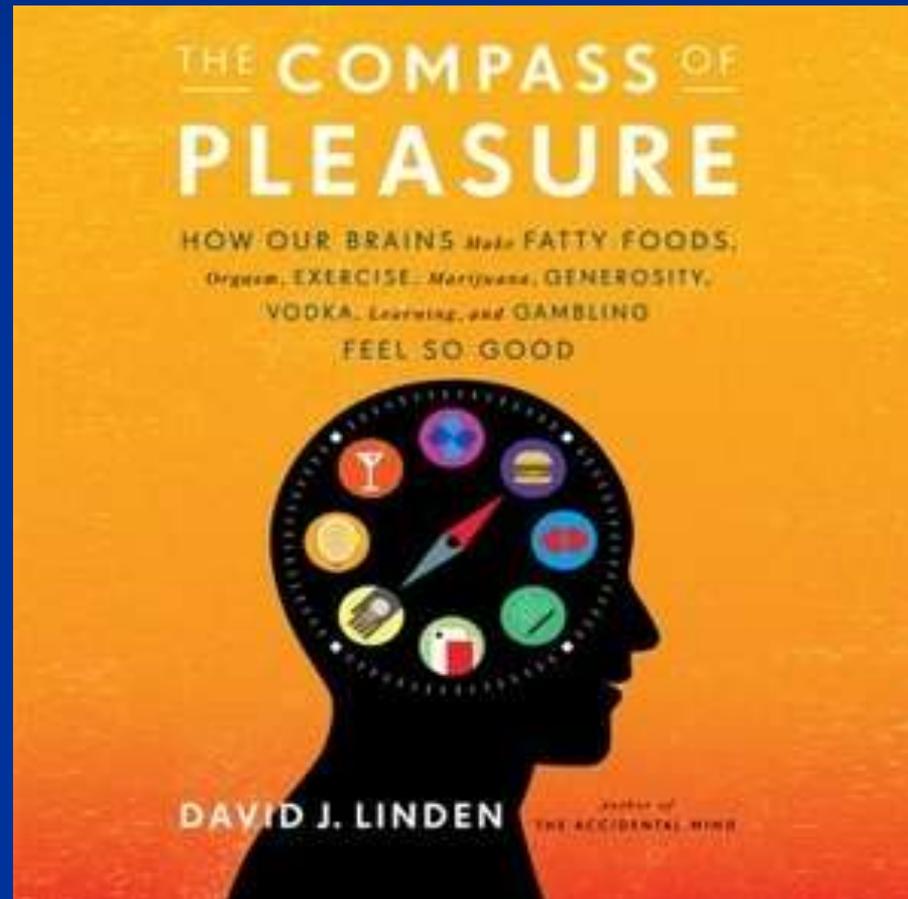
# Outline (continued)

- F. Internet Addiction
  - G. Pathological Gambling
  - H. Binge Eating
- 
- III. Conclusions

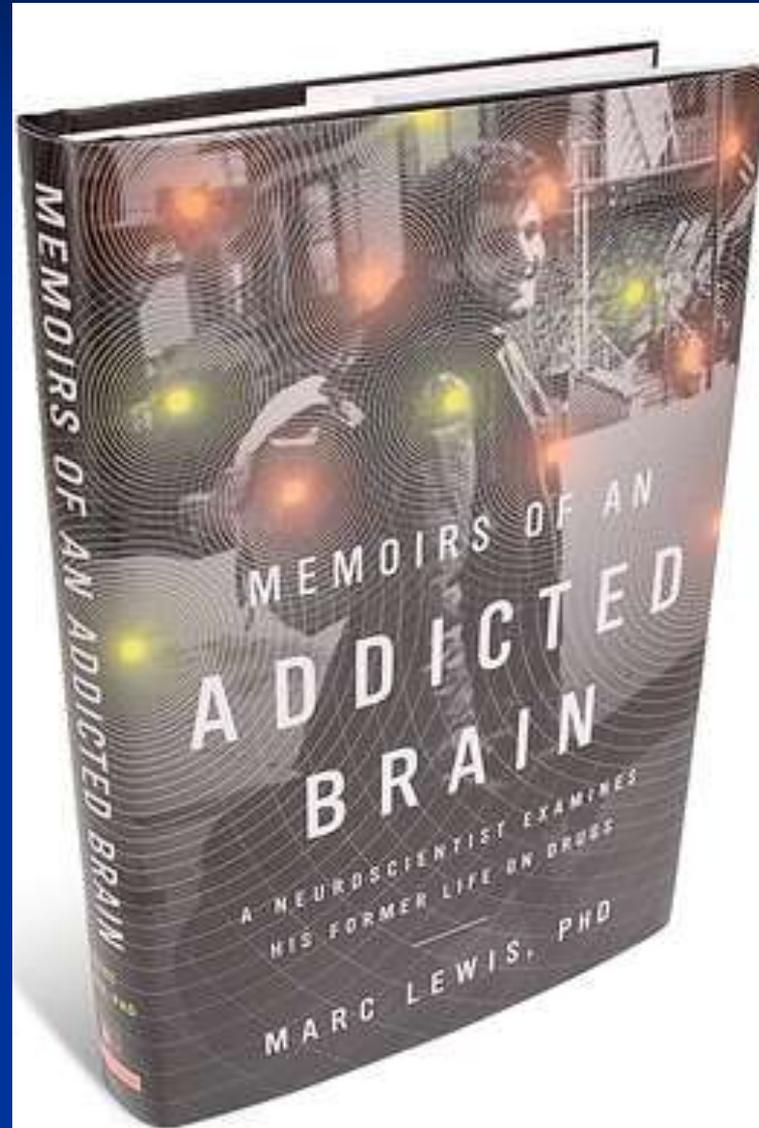
# I. Recent Developments in the Behavioral Addictions

## ■ A. Books

# The Compass of Pleasure



# Memoirs of an Addicted Brain



# I. Recent Developments in the Behavioral Addictions

- B. Behavioral Addictions in DSM-5
- The “Substance-Related Disorders” classification has been retitled “Substance Use and Addictive Disorders” and now includes “Gambling Disorder”
- A new classification, “Feeding and Eating Disorders,” now includes Binge Eating Disorder

# I. Recent Developments in the Behavioral Addictions

- C. Research Underscoring Commonalities and Frequent Comorbidity of SUDS and Behavioral Addictions

# How Prevalent and Comorbid are SUDs and Behavioral Addictions?

Sussman et al. (2011): Prevalence of the Addictions: A Problem of the Majority or Minority? *Evaluation & the Health Professions*, 34, 3-56.

- Conducted 640 bibliographic searches in 4 databases identifying studies of the prevalence of 3 types of SUDs and 8 behavioral addictions.
- Identified 83 studies of U.S. adults with >500 subjects and focused on annual prevalence.
- Estimates that 47% of adults suffer from 1+ of these dxs annually
  - 10% meet criteria for alcohol abuse/dependence
  - 5% meet illicit drug abuse/dependence criteria
  - tobacco dependence = 15%
  - binge eating disorder = 2-3%
  - pathological gambling=2%
  - Internet addiction=2%
  - love and sex addiction=3% & 3%, respectively
  - exercise dependence=2-3%
  - workaholism=10%
  - compulsive buying/shopping=6%

**Comorbid SUDs and behavioral addictions are common.**

# Estimated Annual Prevalence and Co-Occurrence of 11 Different Addictive Behaviors in U.S. Adults

**Table 3. Estimated Prevalence and Co-Occurrence of 11 Different Addictive Behaviors**

If, Then	Prev	Cigs	Alc	Drugs	Eat	Gamble	Net	Love	Sex	Exercise	Work	Shop
Cigs	15%		50%	50%	20%	20%	20%	20%	20%	20%	20%	20%
Alc	10%	50%		50%	20%	20%	20%	20%	20%	20%	20%	20%
Drugs	5%	50%	50%		20%	20%	20%	20%	20%	20%	20%	20%
Eat	2%	25%	25%	25%		25%	25%	25%	25%	25%	25%	25%
Gamble	2%	50%	30%	20%	20%		20%	20%	20%	20%	20%	20%
Net	2%	10%	10%	10%	10%	10%		10%	10%	10%	10%	10%
Love	3%	40%	40%	40%	20%	20%	20%		50%	20%	20%	20%
Sex	3%	40%	40%	40%	20%	20%	20%	50%		20%	20%	20%
Exercise	3%	15%	15%	15%	25%	25%	25%	25%	25%		25%	25%
Work	10%	20%	20%	20%	20%	20%	20%	20%	20%	20%		20%
Shop	6%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	

(Sussman et al., 2010)

# Lifetime Prevalence of SUDs in 4 Behavioral Addictions

- Pathological Gambling 35%-63%
- Sexual Addiction 64%
- Internet Addiction 38%
- Compulsive Buying 21%-46%

(Grant, 2008)

# Commonalities of Behavioral Addictions & SUDs

## *Natural hx:*

- chronic, relapsing course; produce financial, marital, and legal problems; men start earlier; dxs often comorbid suggesting shared etiology.

## *Phenomenology:*

- produce short-term rewards that can lead to loss of control. Addicted persons report euphoria while engaging in experience and craving/withdrawal sx's while abstinent.

## *Neurobiology/Psychology:*

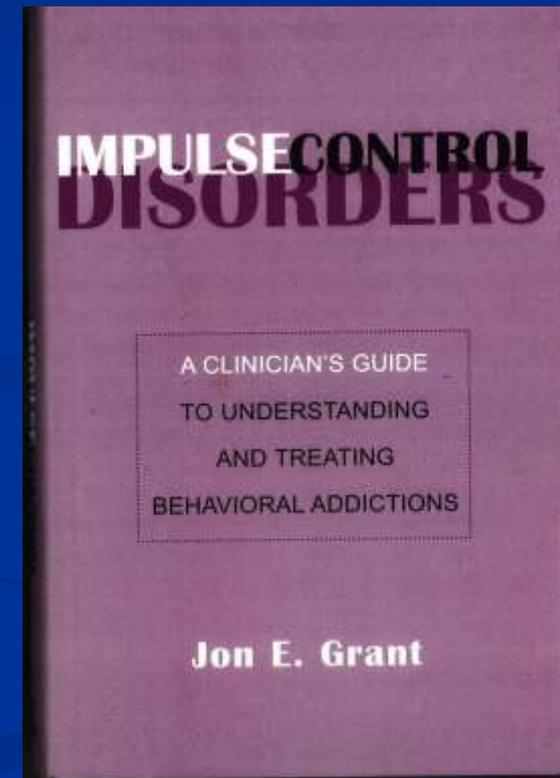
- Similar neurotransmitters and neurocircuitry involved. Similar personality traits may predispose to SUDs & behavioral addictions.

## *Tx/Recovery:*

- Natural recovery common and both sets of dxs respond to similar txs (e.g., Naltrexone, CBT)

# Behavioral Addictions & SUDs

- Many commonalities with respect to natural hx, manifestations, & consequences
- Pathological gambling most studied, followed by internet addiction
- Far more research needed re: etiology/tx



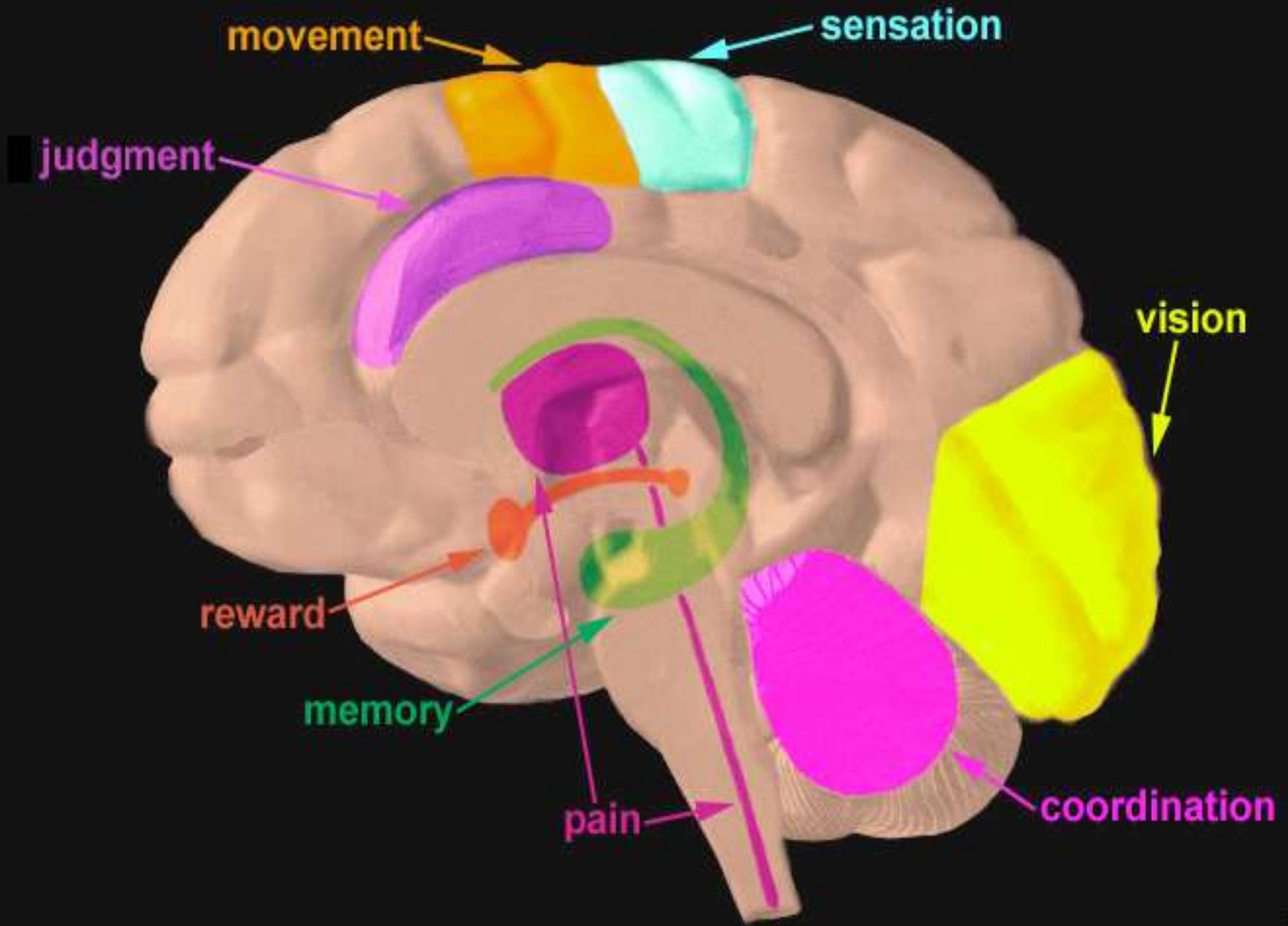
# II. The Neurobiology of Addiction

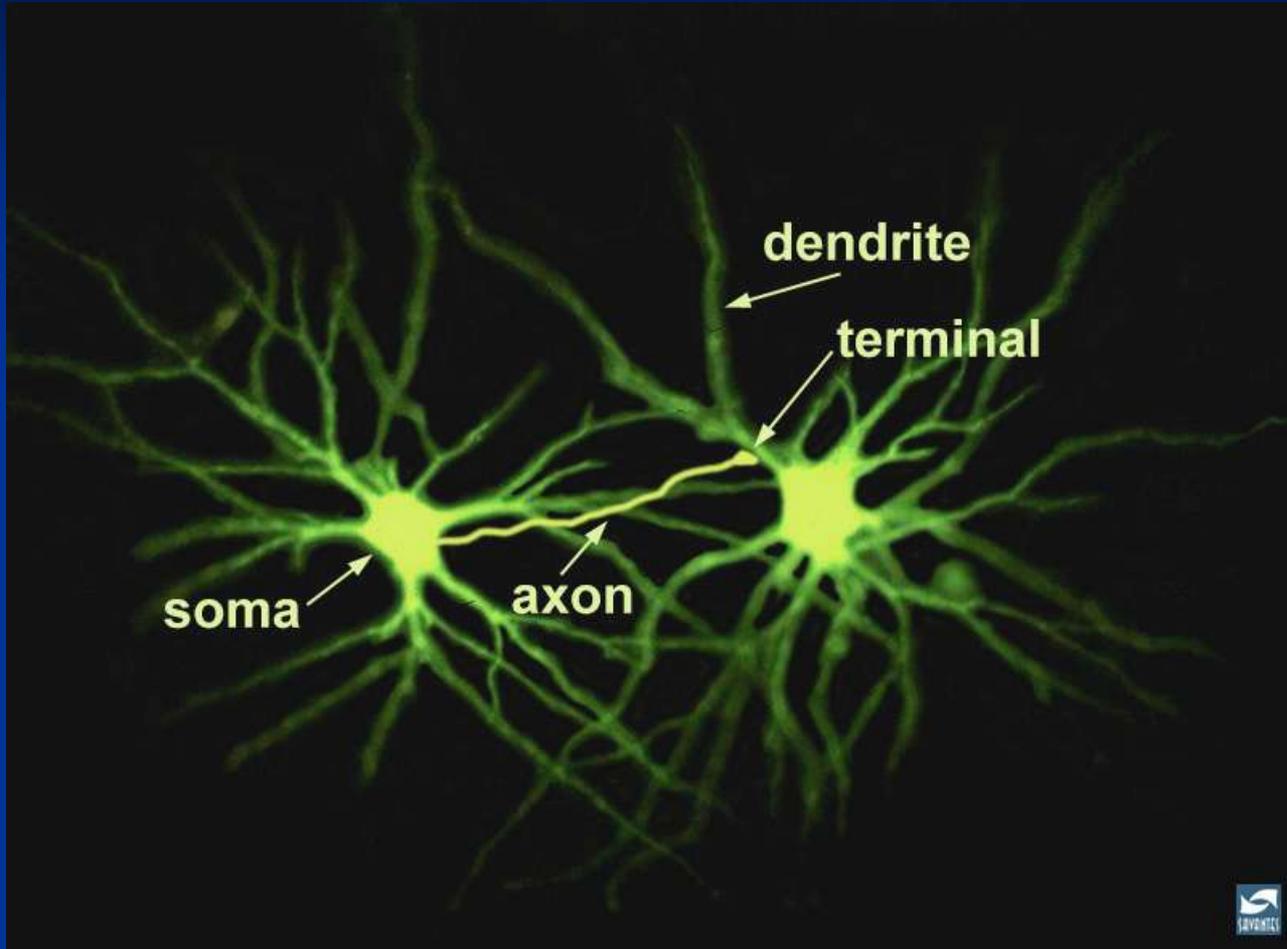
- Toward a Unifying Model of SUDS and Behavioral Addictions

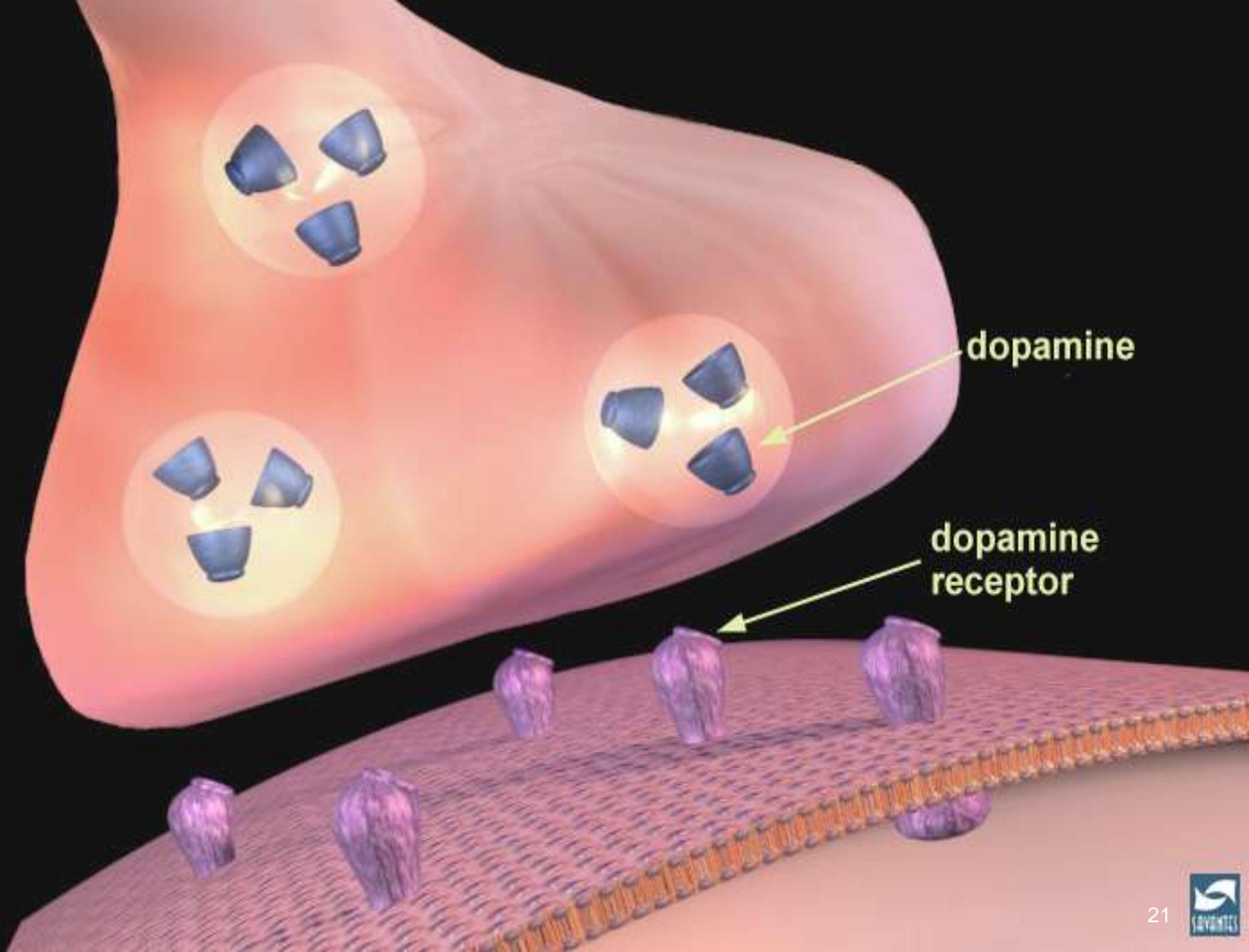
# Introduction to the brain











dopamine

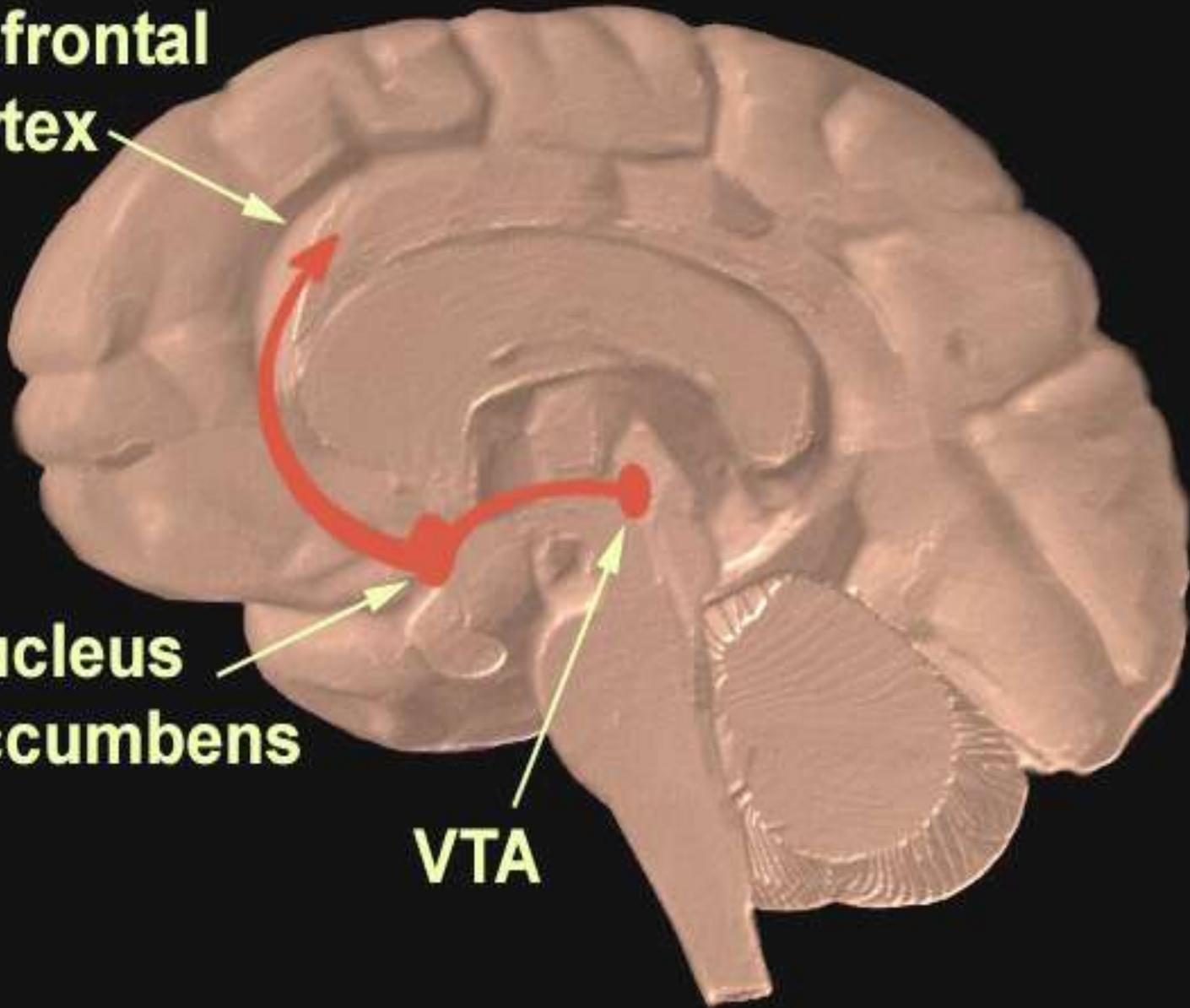
dopamine  
receptor

# The Reward Pathway and Addiction

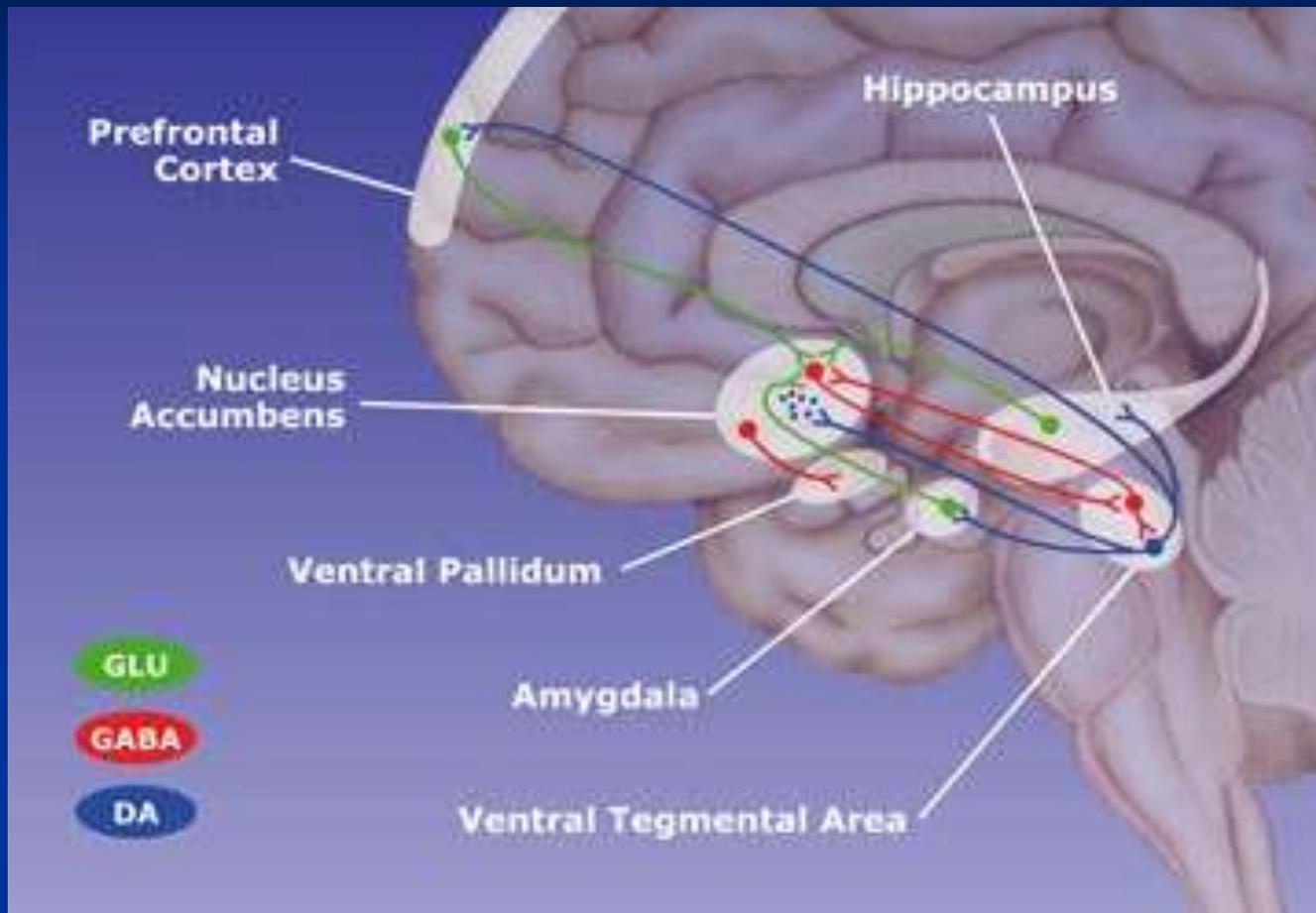
**prefrontal  
cortex**

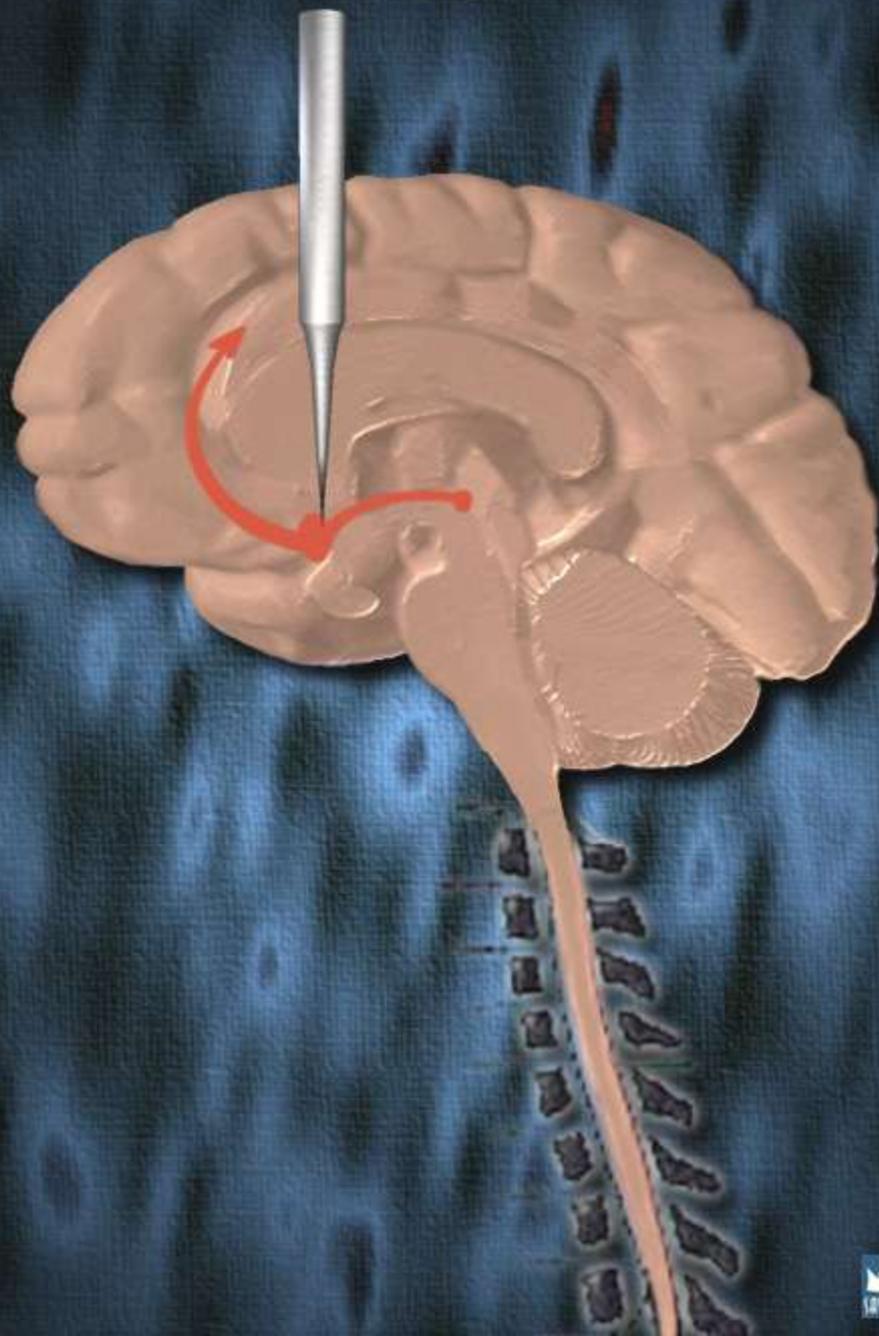
**nucleus  
accumbens**

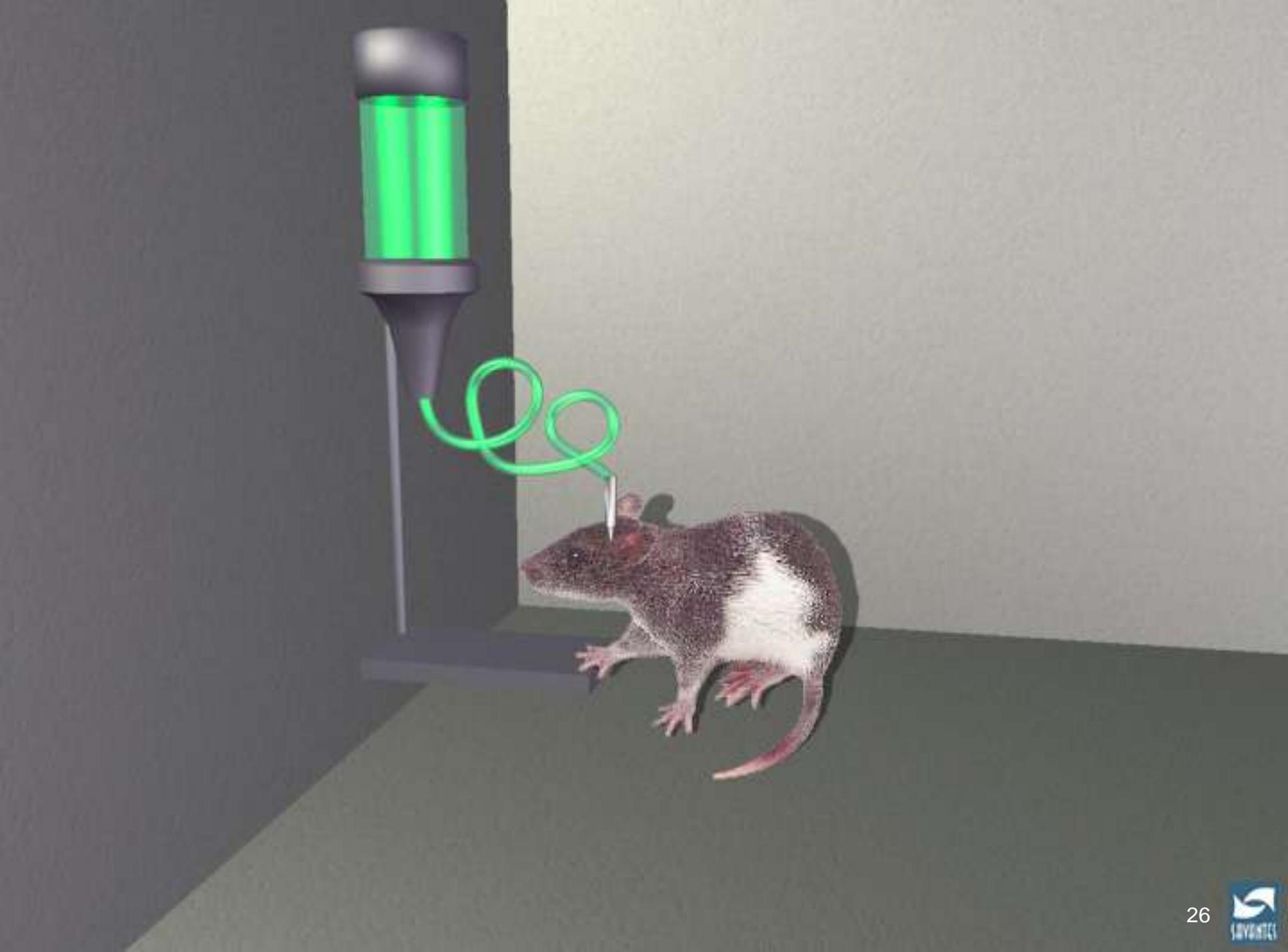
**VTA**



# Reward Circuitry







# Natural Rewards

Food  
Water  
Sex  
Nurturing

# Addiction

**A state in which an organism engages in a compulsive behavior**

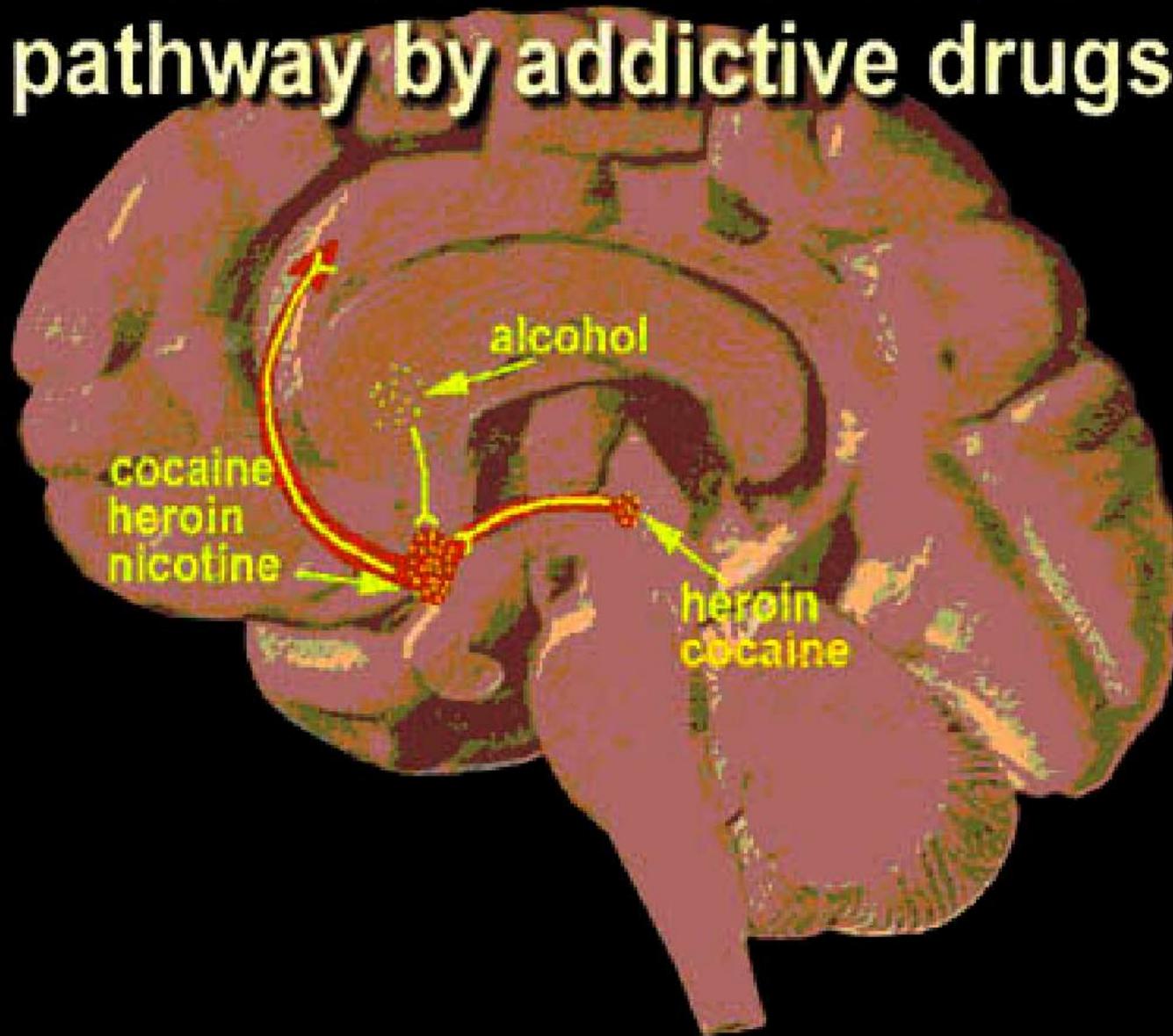
- **behavior is reinforcing (rewarding or pleasurable)**
- **loss of control in limiting intake**

# Tolerance

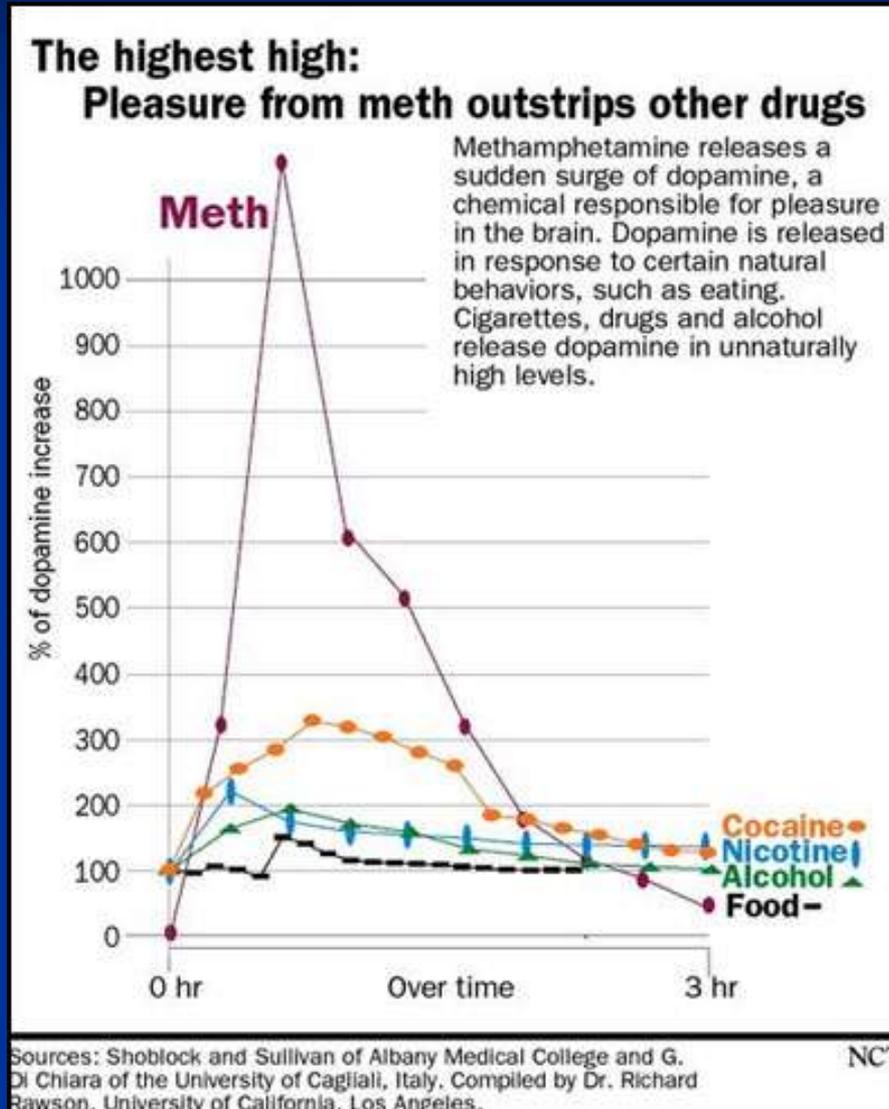
A state in which an organism no longer responds to a drug

- a higher dose is required to achieve the same effect

# Activation of the reward pathway by addictive drugs



# Comparative Dopamine Release By Different Substances of Addiction





**Smokable cocaine-*freebase*, crack**



## Amphetamines & Methamphetamines





DEA





**DEA**



## Needle Infections

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- Abscesses
- Cotton fever
- Endocarditis
- Embolism
- Hepatitis B & C
- HIV & AIDS
- Septicemia



**Necrotizing fasciitis (flesh-eating bacteria)**



### III. Conceptualization, Epidemiology, Assessment, and Treatment of 8 Behavioral Addictions

- These dxs range from the well-established to the highly controversial and
- have varied levels of empirical and clinical support

# Compulsive Buying Disorder



# Compulsive Buying Disorder: Terminology & History

- Referred to as *oniomania* by Kraepelin & “impulsive insanity” by Bleuler
- AKA *compulsive shopping, shopaholism, spendaholism, addictive buying*
- Little research/clinical attention until publication of 3 case series in 1994 —described in U.S., Canada, England, Germany, France, and Brazil.

# Compulsive Buying Disorder: Elroy Criteria

- A. Maladaptive preoccupation with buying or shopping, or maladaptive buying or shopping impulses or behavior, as indicated by at least one of the following:
1. Frequent preoccupation with buying or impulses to buy that is/are experienced as irresistible, intrusive, and/or senseless.
  2. Frequent buying of more than can be afforded, frequent buying of items that are not needed, or shopping for longer periods of time than needed.
- B. Preoccupations, impulses, or behaviors interfere with social/occupational functioning or result in financial problems
- C. Excessive shopping does not occur during periods of mania/hypomania.

# Compulsive Buying Disorder: Diagnostic Considerations

- CBD not formally included in DSM-IV/ICD-10 , but can be diagnosed in DSM-IV as ICD NOS (312.30) or in ICD-10 as a Habit and Impulse Disorder, Unspecified (F63.9).
- Must cause *marked distress, significant financial problems, and/or impairments in social functioning*



# Compulsive Buying Disorder: Prevalence, Correlates, and Natural History

- Koran et al. (2006): point prevalence: women, 6.0%; men, 5.5% U.S adults
  - < age and income <\$50,000/yr = > CBD
- Mueller et al. (2010): Point prevalence for German adults: Women, 6.9%; Men, 6.8%
  - <age and > depressive sx's predicted CBD
- Age of onset: 18-30; course: continuous/chronic in ~60%
- Clinical samples overwhelmingly women—an artifact?

# Compulsive Buying Disorder: Clinical Sxs

- Intrusive thoughts about shopping common
- Anger, anxiety, boredom, and self-critical thoughts often precede shopping episodes
- Shopping alone is typical, venues diverse, generally accompanied by euphoria
- Shopping episodes are frequent, dependent persons may miss important occasions to shop, interval between the urge to shop and shopping is brief

# Compulsive Buying Disorder: Clinical Sxs

- Items may be purchased for self or others and are often returned or unused
- Clothing, jewelry, make-up, electronics, books, music, food are the most common items purchased
- More interest in the process than in possessing the item
- Consequences: debts, legal, relationship, and psychological problems



# Compulsive Buying Disorder: Comorbidities

- Elevated rates of mood, anxiety, SUDs, eating disorders, and other behavioral addictions
- Elevated rates of Axis II disorders (OCP, avoidant, BPD) are observed
- A recent study of 709 women with eating disorders (including Dr. Bulik from UNC) found that 11.8% of women met criteria for CBD. CBD occurred more often in individuals with binge eating subtypes and was associated with worse eating-related sx's, more pathological personality traits, and more prevalent Axis I & II dx's.

# Case Study 1

- Marcinko et al. (2006) report 2 cases of comorbid compulsive buying and binge eating disorder in Croatian women.
- Ms. A was a single, 33-year-old architect, living alone, who borrowed large amounts of money from her friends to purchase antiques, accumulated massive debts, experienced shame and a consequent tendency to isolate

# Case Study 1 (cont)

- socially, job loss, initial insomnia, and the purchase and binge eating of large amounts of food (w/o compensatory behaviors) when she was unable to shop.
- Was successfully txed with high doses of fluvoxamine (Luvox), short-term diazepam, and psychodynamic psychotherapy—no relapses at 1-year follow-up.

# Case Study 2

- Ms. B. was a 41-year-old mechanical engineer, married w/no children.
- Developed a problem with purchases of designer clothes and jewelry at age 39, strong tension preceding and intense relief following purchases, followed by guilt, dysphoria, and despair that she had spent far more than she could afford.

# Case Study 2 (cont)

- Such purchases were followed by intense bouts of binge eating followed by purging behavior. Txed successfully with fluvoxamine with good outcome at 1-year follow-up.
- *Progress in Neuro-Psychopharmacology & Biological Psychiatry, 30, 1542-1544.*

# Case Study 3

- Di Nicola et al. (2010) reported a case of comorbid compulsive buying and exercise addiction in a 47-year-old man seen in a Italian clinic.
- Since age 42, he had spent most of his time purchasing clothing and shoes in high fashion department stores and boutiques and luxury cars. He averaged more than a \$1,000 per shopping episode and was deeply in debt

# Case Study 3 (cont)

- with many credit cards maxed out.
- He felt anxious before each purchase, elated at the time of buying, followed by guilt, sadness, regret, and depression.
- Concurrently, he was running many hrs a day, performing 500 abdominal crunches before lunch and dinner,

# Case Study 3 (cont)

- exercising while sick/injured, and had abandoned all social relationships.
- He was successfully txed with 6 mos of quetiapine + psychotherapy--sxs of both dxs were entirely resolved at 6 months.
- *Progress in Neuro-Psychopharmacology & Biological Psychiatry, 34, 713-714.*

# Compulsive Buying Disorder: Etiological Theories

- **Cultural:** materialism, easy availability of credit, consumer advertising, the Internet
- **Neurobiological:** A + association of CBD with gene for D1 DA receptor. Effective tx with naltrexone suggests involvement of DA systems.
- **Developmental:** Greater familial focus on materialistic concerns
- **Genetic:** CBD runs in families--families have elevated rates of mood & SUDs.
- **Psychological:** CB as a way to cope with negative emotion, high levels of sensation seeking and impulsiveness in CBDs vs. nonaffected controls

# Compulsive Buying Disorder: Assessment



*Clinicians should ask about relevant attitudes/behaviors:*

- Do you ever feel overly preoccupied with shopping and spending?
- Do you ever feel your shopping behavior is excessive, inappropriate, or uncontrolled?
- Have your shopping desires, urges, fantasies, or behaviors ever been overly time consuming, caused you to feel upset/guilty, or led to serious problems in your life such as financial/legal problems or loss of a relationship?

# Compulsive Buying Disorder: Assessment

- *R/O alternative problems* that can present with excessive buying (BP, meds, neurological disorders)
- *Distinguish normal* from pathological buying behavior
- *Use a screening instrument* of established R/V

# Compulsive Buying Disorder: Screening and Assessment Instruments

- ***Compulsive Buying Scale***: 7-items assessing motivations, behaviors, and feelings associated with CBD—reliably distinguishes normal buyers from those w/CBD
- ***Edwards' Compulsive Buying Scale***: 13-items assessing experiences/feelings about shopping/spending
- ***Yale-Brown Obsessive-Compulsive Scale-Shopping Version***: 10-items assessing time spent buying, interference, distress, resistance, and degree of control for both shopping cognitions /behaviors. Measures severity of CBD and change over tx—high sensitivity and good R/V
- ***Minnesota Impulsive Disorders Interview***: Assesses CBD and 6 additional ICDs. Semi-structured with core questions and 5 follow-up questions about CBD and an expanded 82-item module for those screening + for CBD.
- Others: the ***Questionnaire about Buying Behavior, Compulsive Buying Scale*** , & ***Canadian Compulsive Buying Measurement Scale***

# Compulsive Buying Disorder: Treatments

- No EBPs or tx guidelines
- Clinical recommendations can include encouraging clients to dispose of credit cards/check books, shop with a friend or relative, find alternative leisure-time pursuits, functional analysis
- Other recommendations are to draw on available self-help books, join Debtors Anonymous or simplicity circles, seek the guidance of financial counselors/conservators, seek marital/couples therapy

# Compulsive Buying Disorder: Treatments

## *Pharmacological:*

- Few controlled trials.
- 2 double-blind trials did not support the efficacy of fluvoxamine
- Small open-label studies have supported efficacy of citalopram, naltrexone, and tricyclic anti-depressants

## *Psychosocial:*

- Some support for durable effects in several studies of group CBT
- A self-help program developed by Benson based on CBT with workbook, shopping diary, and CD-ROM is available

# Compulsive Buying Disorder: Future Directions

1. Need to establish the validity of dx criteria
2. Longitudinal studies of the natural hx of treated/untreated persons with CBD needed
3. Identification of subtypes
4. Identification of effective txs & pt.-treatment matching factors
5. Specification of sex differences in course and manifestations of CBD

# Tanning Addiction



# Tanning Addiction: Terminology and History

- *AKA “Tanorexia:”* A disorder, like anorexia, in which no matter how tan a person is, they never think they are tan enough. Manifests in excessive sunning, use of sunbeds and solariums. (The Urban Dictionary)
- *Very limited and recent literature:* ~10 studies since 2005 and 2 brief reviews
- Anecdotal reports of addiction to sunbathing & mood-enhancing effects of sun exposure

# Case Study

- 80-year-old Caucasian man with 65-year history of nearly continuous waking exposure to sunlight during the spring, summer, and fall and heavy use of indoor tanning beds during the winter. 5 episodes of basal cell cancer in adulthood. Severe acne in childhood, reported mood and dermatological benefits of sun exposure, hx of alc, benzo, and mj dependence, MDD, PD, and Axis II dxs. Continues to engage in “sun worship.”

# Tanning Addiction: Reasons for Concern

- Girls/women engage in outdoor/indoor tanning in high numbers and can evidence signs of tanning dependency
- 30 million Americans visit a tanning salon annually; > 25% of teenage girls have used a tanning salon 3+ times; 10 annual tanning visits are reported to increase lifetime risk of melanoma by 800%
- Skin cancer accounts for 50% of cancers; 2.2 million annually



# Tanning Addiction: Definition and Diagnostic Considerations

- No standard definition
- Modified CAGE and/or Modified DSM-IV SUD Dx Criteria are typically used:
  - 2+ CAGE responses (e.g., Have you tried to stop tanning, but still continue?)
  - 3+ DSM-IV Dx Criteria: (e.g., Do you feel unattractive or anxious if you do not maintain your tan?)
- The CAGE and modified DSM-IV criteria are of unknown R/V/sensitivity/specificity

# Tanning Addiction: Prevalence, Correlates, and Natural History

- 2005: 26% of 145 Galveston Island beachgoers met CAGE and 53% met modified DSM-IV criteria; 31% of women vs. 17% of men CAGE+ and F 5.5 times more likely than M to go to the beach to tan.
- 2006: 12% of 385 undergraduates CAGE+; women, indoor/frequent tanners more likely to meet criteria; 76% of women reported purposely tanning their skin; 42% reported using indoor tanning devices; 9% tanned > than 20 times/mo
- 2010: 41/100 indoor tanners dxed as tanning dependent: women/respondents with early onset of tanning were most likely to be dependent.
- 2010: 421 college students. 229 had used indoor tanning facilities: 39.3% of these DSM-IV+ and 30.6% CAGE+

# Tanning Addiction: Prevalence, Correlates, and Natural History

## *Correlates of TD:*

- Smoking and other substance use
- Hx of tanning-related adverse events, hx/greater frequency of indoor tanning, more hrs spent tanning
- Caucasian
- Women/those w/earlier age at initiation of tanning and agreeing that tanning helps to “lift my spirits” and “is relaxing” reported the most difficulty in quitting tanning.

# Tanning Addiction: Prevalence, Correlates, and Natural History

- Tanning behavior more common in young people
- Skin more sensitive to UV-related damage in younger people
- TD often has an early onset (early to mid-teens)



# Tanning Addiction: Etiology

Etiology unknown but has been tied to:

- ***Body Dysmorphic Disorder:*** preoccupation with a perceived defect in appearance
- ***SAD:*** tanning may be a form of self-medication for dysphoric mood
- ***Neurobiological:*** UV light exposure increases levels of beta-endorphin, which can produce relaxation and a sense of well-being and increases in DA/SA.
- UV light can also influence serotonin/melatonin levels which may have + mood effects
- ***Cultural/Social:*** Tanned bodies are now prized

# Tanning Addiction: Clinical Features

- High-frequency tanners can distinguish between UV light exposure and sham light exposure and greatly prefer UV exposure
- Tolerance to tanning appears to develop, with tanning dependent persons tanning far longer than required to maintain tan for appearance
- High-frequency tanners demonstrate signs of opioid withdrawal upon administration of Naltrexone prior to UV-light exposure
- Tanning dependent respondents tan “to relax,” to “feel good,” and for reasons that suggest that tanning may be rewarding; they tend to tan year-round, try to cut down but can’t, often feel guilty about their tanning, and are aware their behavior is dangerous

# Tanning Addiction: Treatments & Other Interventions

- No EBPs or even tx studies
- Policy measures to ban underage indoor tanning and to regulate indoor tanning generally
- Promoting use of spray-on tanning agents along with healthful activities with + mood regulation effects

# Tanning Addiction: Future Directions

- Studies needed examining psychometrics of TD screening measures
- Neuroimaging and other studies examining the neurobiological effects of tanning and mechanisms promoting TD
- Studies identifying predictors of TD and potential subtypes of TD persons
- Studies identifying effective txs for TD

# Exercise Dependence



# Exercise Dependence: Diagnostic Criteria

De Coverley Veale's (1987) proposed diagnostic criteria have remained influential:

- A. Narrowing of behavioral repertoire leading to a stereotyped pattern of exercise with a regular schedule of once or more daily;
- B. Salience with the individual giving increasing priority over other activities to maintaining the pattern of exercise;
- C. Increased tolerance to the amount of exercise;
- D. Withdrawal symptoms including mood changes following extended abstinence from exercise;
- E. Relief or avoidance of withdrawal symptoms by further exercise;
- F. Subjective awareness of a compulsive need to exercise; and
- G. Rapid reinstatement of previous pattern of exercise and withdrawal sx's after a period of abstinence.

# Exercise Dependence: Diagnostic Criteria

- There have been efforts to modify DSM-IV SUDs criteria to assess “physical activity abuse and dependence.”
- Several authors have also distinguished primary and secondary exercise dependence (ED):
  - **Primary ED** = ED without a comorbid eating disorder. The exercise is the end in itself.
  - **Secondary ED** = ED in persons with anorexia or bulimia which serves to facilitate weight loss and/or compensate for binge eating.

# Case 1

- 42-year-old school teacher who had dropped his weight from 218 lbs to 112 lb in 2 years—ran 5 miles a day + 1 hr sauna—was pleased with his weight loss and did not consider himself thin (although he was nearly 6 feet tall).
- He could gain up to 7 lbs a weekend via binge drinking and binge eating episodes

# Case 1 (cont)

- and then would rapidly renew his excessive dieting, exercise, and sauna bath habits
- He was depressed, with no libido, and bored w/work and unhappy w/home life, but elated while exercising. He had initial insomnia & early morning awakening
- He felt his actions were reasonable but did admit that his marriage was suffering because he spent so little time at home. Lyons & Cromley, 1989, Ulster Medical J, 58, 100-102.

# Case 1 (cont)

- Was seen 6 times over 3 mos w/wife and a focus on psychogenic factors potentially relevant to his recovery and had a good outcome

# Exercise Dependence: Prevalence

- *Highly prevalent in eating disordered populations* (e.g., Grave et al., 2008 reported that 45.5% of 165 Italian women with EDs were compulsive exercisers [80% in restricting-type AN]; 48% of AN patients studied by Klein at Columbia had ED.)
- Prevalence of 3% in general population sample of regular exercisers
- Estimated point prevalence of 1 - 3% in the general population

# Exercise Dependence: Correlates & Consequences

- *Correlates:*
- anxiety and oc sx's, female sex, problematic attitudes toward eating & eating disorders, perfectionism, & younger age.
- *Consequences:*
- overuse injuries, fractures, can make weight restoration difficult, and play other roles in maintaining eating disorder psychopathology (e.g., promotes social isolation, modulates mood in a dysfunctional way, etc.).



# Exercise Dependence: Clinical Symptoms

- *Withdrawal sx's*: No exercise for 24-hours associated with depressed mood, increased tension, anger, fatigue, elevated RHR, and cognitive impairment (Aidman & Woollard, 2003).
- Women with exercise dependence are more likely to report craving for exercise, feeling bloated, moody, depressed, tense, restless, and anxious when unable to exercise.
- *Other sx's*: salience, conflict, mood modification, tolerance

# Exercise Dependence: The Exercise Addiction Test

6-items, covers core sx dimensions with good R/V (1= strongly disagree; 5=strongly agree); score 24 or > = at-risk group for Exercise Dependence

1. Exercise is the most important thing in my life (***Salience***)
2. Conflicts have arisen between me and my partner about the amount of exercise I do (***Conflict***)
3. I use exercise as a way of changing my mood (e.g., to get a buzz, to escape, etc.) (***Mood regulation***)
4. Over time I have increased the amount of exercise I do (***Tolerance***)
5. If I have to miss an exercise session I feel moody and irritable. (***Withdrawal***)
6. If I cut down on the amount of exercise I do, and then start again, I always end up exercising as often as I did before. (***Relapse***)

# Exercise Dependence: Other Assessments

- Obligatory Exercise Questionnaire (Thompson & Pasma, 1991)
- Exercise Dependence Scale (Hausenblas & Symons Downs, 2002)
- Exercise Dependence Questionnaire (Ogden et al., 1997)
- The Exercise Dependence Interview (Bamber et al., 2003)

# Exercise Dependence: Etiology

Affect regulation hypothesis: Exercise to reduce negative affect and/or to increase positive affect.

Exercise-related mood effects may be related to enhanced beta-endorphin production which enhances CA

Little known about causes of primary/secondary exercise dependence

# Exercise Dependence: Treatment

- No EBPs or tx guidelines for exercise dependence
- *CBT*: including MET to address ambivalence, real-time monitoring/functional assessment of exercise behavior, psychoeducation addressing features of healthful exercising behavior, temporarily discontinuing competitive sports, finding alternative ways to regulate mood, and proactive problem-solving to anticipate/reduce problems, and temporarily restricting exercise if necessary/feasible.

# Exercise Dependence: Future Directions

- Need to learn more about prevalence/correlates of ED in the general pop.
- Learn more about etiology, characteristics, and longitudinal course of primary exercise dependence
- It would be useful to know to what extent ED is a form of shape/weight control vs. a form of mood regulation
- Promising tx approaches should be investigated

# Love Addiction



# Love Addiction: Terminology & Current Status

- Aka pathological love, love passion
- Little research, but interesting neuroimaging studies
- No widely accepted def. or dx criteria—phenomenology considered similar to SUDs
- No good data regarding epi, genetics, comorbidities, or tx
- Usually LA refers to romantic love and particularly early-stage romantic love

# Love Addiction: History

*Romantic love has:*

- been identified in 147/166 contemporary cultures
- 1 of 3 brains systems that facilitate mate selection:
- *sex drive* (evolved to motivate individuals to seek a range of mating partners)
- *attraction* (to motivate individuals to prefer/pursue specific partners)
- *attachment* (to motivate individuals to remain together)
- LA been reported since antiquity, is a focus of popular media, literary and artistic works

# Love Addiction: Similarity to Drug Addiction

“The Soma Elixir (a love potion) is perfectly in line with this most important intuition, *that all our inebriating spirits and our stimulating alkaloids are merely a substitute for a single substance, yet to be discovered, the same that the intoxication of love procures*” (Freud, 1907)

# Love Addiction: Clinical Characteristics

- Euphoric mood in the presence of the love object—“love inebriation” (intoxication);
- Irritability, depression, anhedonia, sleep disturbances, craving, and other distressing sx's when separated from love object (withdrawal);
- Transition from desire for to obsessive need for love object and persistence in the relationship despite adverse consequences
- Craving, impaired control, & continued behavior despite adverse consequences are core elements of behavioral addictions—all may be present in LA

# Love Addiction: Definition and Dx Criteria

(Reynaud et al., 2010)

A maladaptive or problematic pattern of love relation leading to clinically significant impairment or distress, as manifested by 3 (or more) of the following (occurring at any time in the same 12-month period for the first 5 criteria):

1. Existence of a characteristic withdrawal syndrome in the absence of the loved one, by significant suffering and a compulsive need for the other.
2. Considerable amount of time spent on this relation (in reality or in thought).
3. Reduction in important social, professional, or leisure activities.