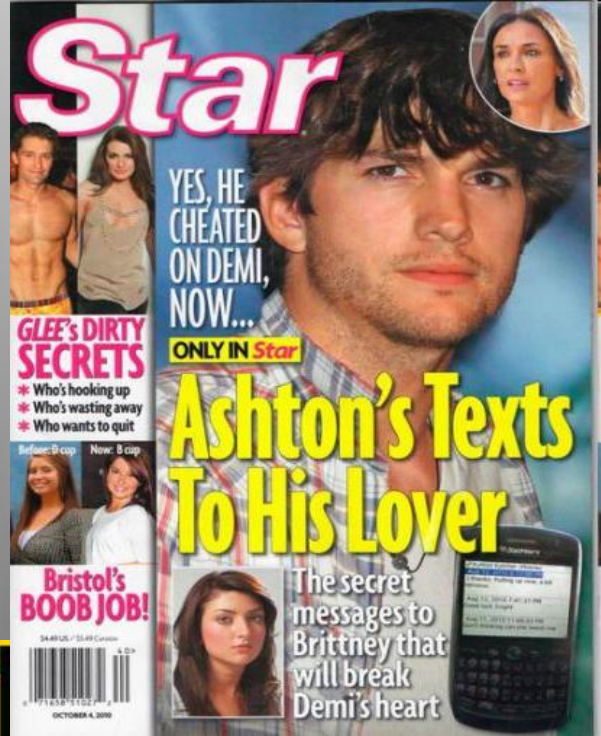


Fame and Performance

Patrick J. Carnes, Ph.D.







SEXTING SCANDAL

BETWEEN COACH, 32, AND UCF JUNIOR, 20, COSTS MAN HIS JOB



TODAY'S HEADLINE NEWS

Idaho Senator Larry Craig Resigns



Minneapolis-St. Paul
International Airport Police
Mug photo of Sen. Larry
Craig

- **MONDAY, SEPTEMBER 03, 2007**
- WASHINGTON — IDAHO SEN. LARRY CRAIG RESIGNED FROM HIS REPUBLICAN SENATE SEAT SATURDAY, BOWING TO PRESSURE FROM REPUBLICANS TO STEP DOWN AFTER HIS ARREST AND GUILTY PLEA IN A SEX SCANDAL.
- THE THREE-TERM REPUBLICAN SENATOR DID NOT ADMIT WRONGDOING, BUT APOLOGIZED FOR BEING UNABLE TO SERVE THE REST OF HIS TERM TO PURSUE LEGAL OPTIONS.
- *FOX NEWS' MAJOR GARRETT AND THE ASSOCIATED PRESS CONTRIBUTED TO THIS REPORT.*



TODAY'S HEADLINE NEWS

Amid allegations, Haggard steps aside



Rev. Ted Haggard of New Life Church in Colorado Springs, shown in this file photo, is temporarily stepping down amid allegations he had a three-year sexual relationship with a gay male who is a former escort. The charges come on the eve of Colorado voting on two ballot issues relating to gay marriage.

- **By Rocky Mountain News November 2, 2006**
- COLORADO SPRINGS — The Rev. Ted Haggard stepped aside as senior pastor of the 14,000-member New Life Church and resigned today as president of the National Association of Evangelicals amid allegations by a former gay male escort that the two had a three-year sexual relationship.

TODAY'S HEADLINE NEWS

Rep. Foley Quits In Page Scandal



Explicit Online Notes
Sent to Boy, 16

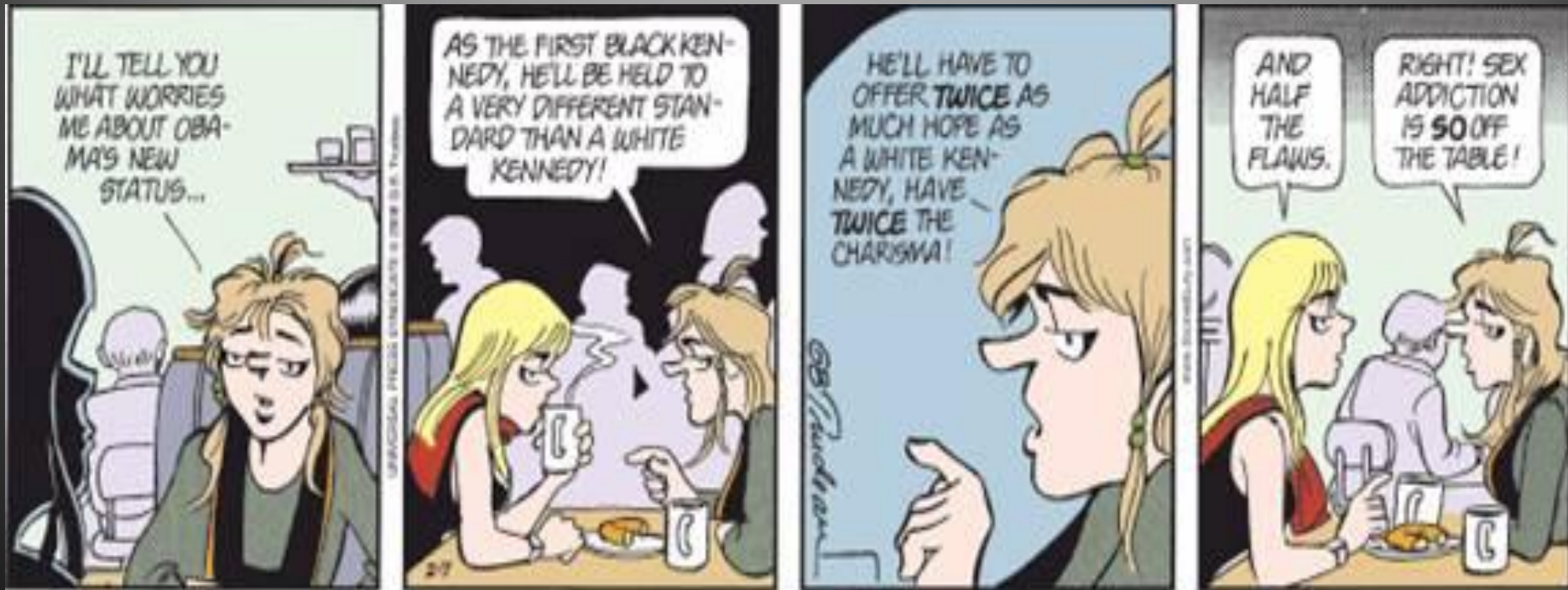
- *By [Charles Babington and Jonathan Weisman](#)*
- Washington Post Staff Writers
Saturday, September 30, 2006; Page A01
- Six-term [Rep. Mark Foley](#) (R-Fla.) resigned yesterday amid reports that he had sent sexually explicit Internet messages to at least one underage male former page.
- Foley, who was considered likely to win reelection this fall, said in a three-sentence letter of resignation: "I am deeply sorry and I apologize for letting down my family and the people of Florida I have had the privilege to represent."

■ Don Addis

St. Petersburg Times



Obama



DAN BROWN

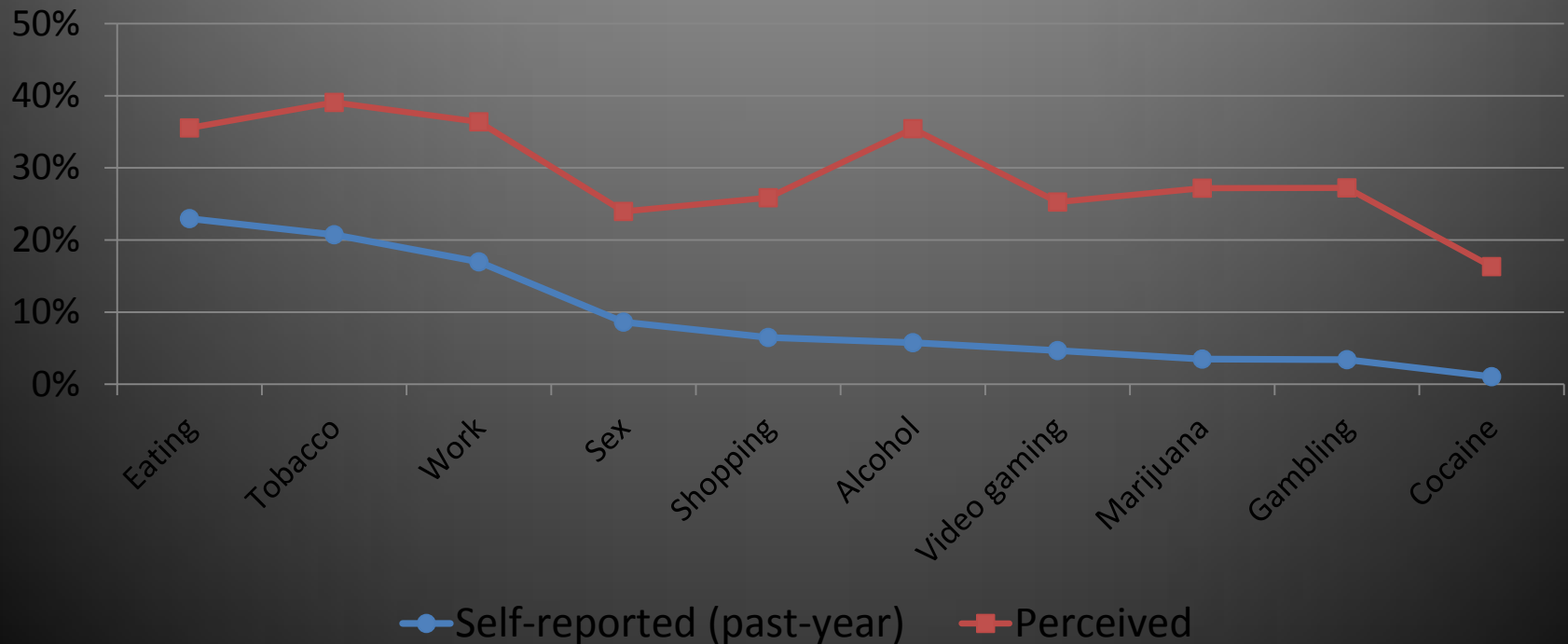
author
of
THE
DA VINCI
CODE

a novel

The
LOST SYMBOL

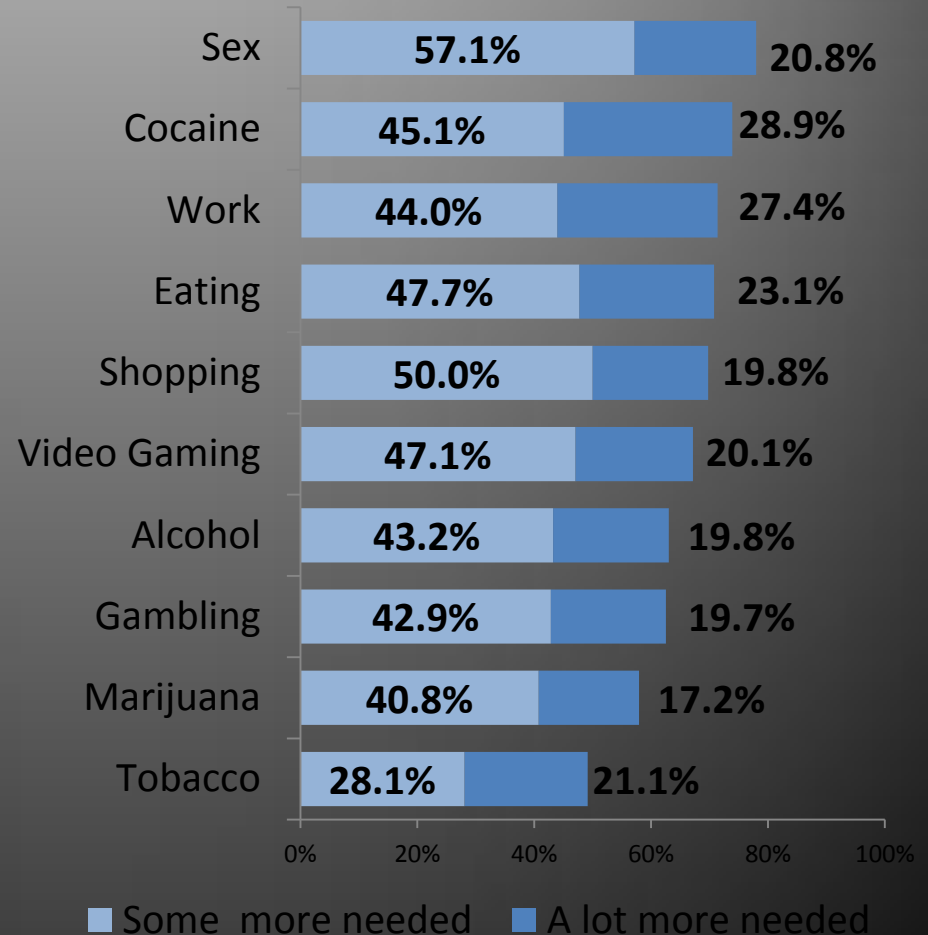
Self-Reported and Perceived Problem Prevalence

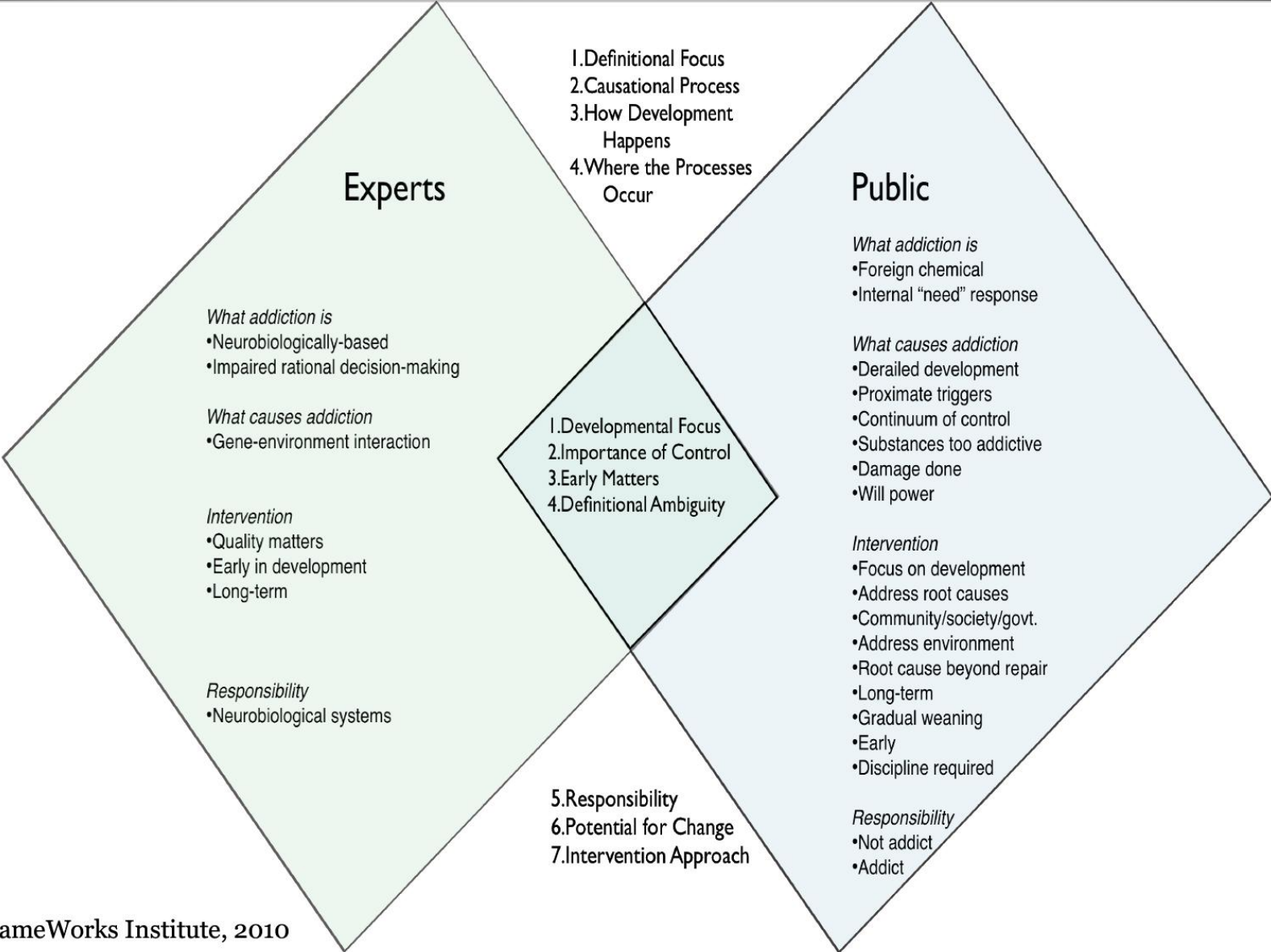
- Perceptions of the percentage of adults who experienced each problem in the past year were consistently higher than self-reported past year problems.

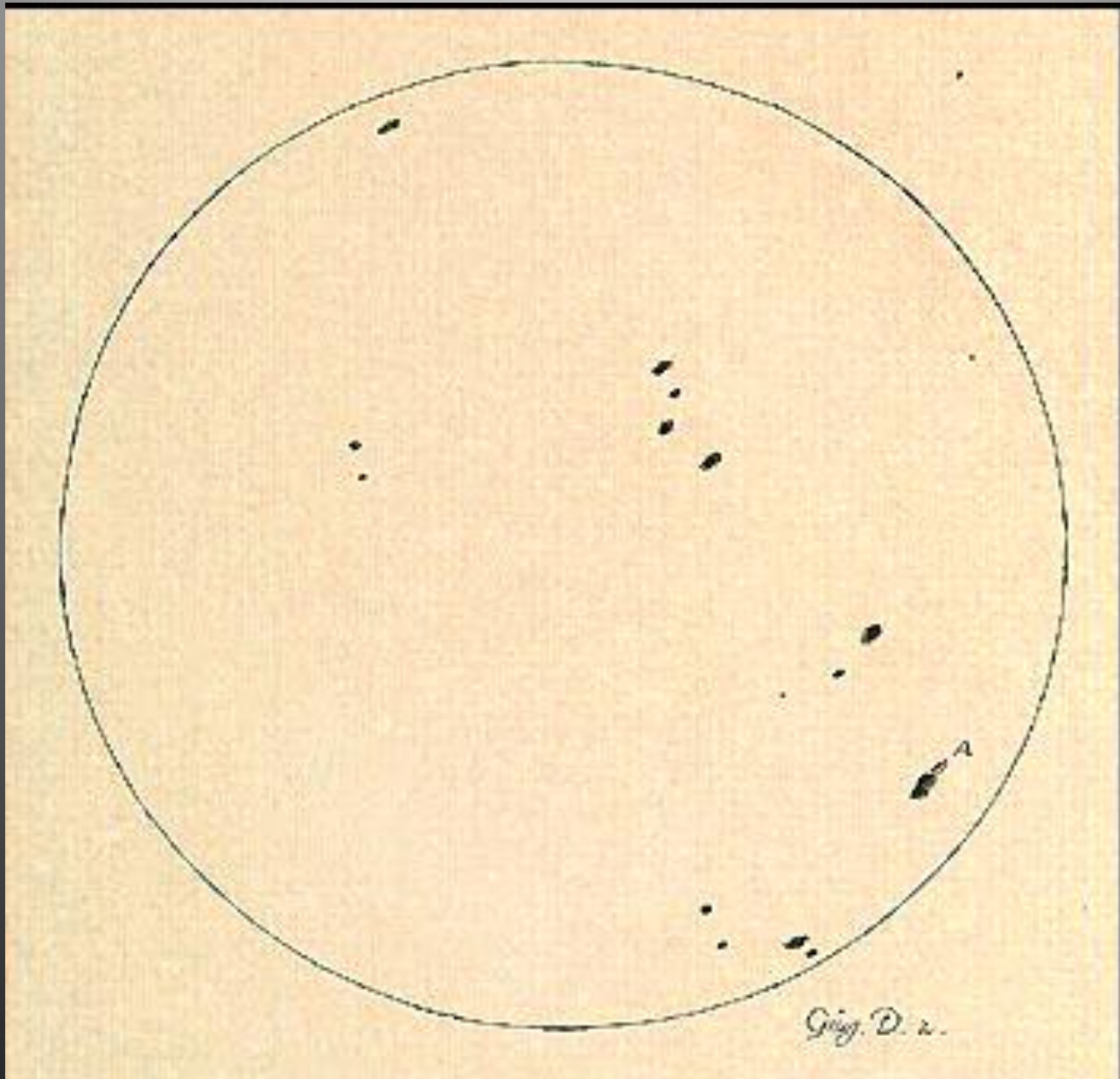


Adequacy of Available Treatment

- Most participants felt that Alberta needs some more services for people with addictive behaviour problems
- The greatest agreement that more treatment is needed was found for sex, cocaine, and work problems







Ging. D. n.

Sex Addiction

- Fits the criteria for addiction

Diagnostic Criteria and Patient Initial and Long-Term Treatment Who Fit These Criteria (See 18.4 Sexual Addiction)

	Initial Treatment %	Long-Term Duration %
Recurrent failure (pattern) to resist impulses to engage in specific sexual behavior.	73	94
Frequent engaging in those behaviors to a greater extent or over a longer period of time than intended.	66	93
Persistent desire or unsuccessful efforts to stop, reduce, or control those behaviors.	67	88
Inordinate amount of time spent in obtaining sex, being sexual, or recovering from sexual experience.	58	94
Preoccupation with the behavior or preparatory activities.	37	77
Frequent engaging in the behavior when expected to fulfill occupational, academic, domestic, or social obligations.	52	87
Continuation of the behavior despite knowledge of having a persistent or recurrent social, financial, psychological, or physical problem that is caused or exacerbated by the behavior.	63	85
Need to increase the intensity, frequency, number, or risk of behaviors to achieve the desired effect, or diminished effect with continued behaviors at the same level of intensity, frequency, number, or risk.	36	74
Giving up or limiting social, occupational, or recreational activities because of the behavior.	51	87
Distress, anxiety, restlessness, or irritability if unable to engage in the behavior.	55	98

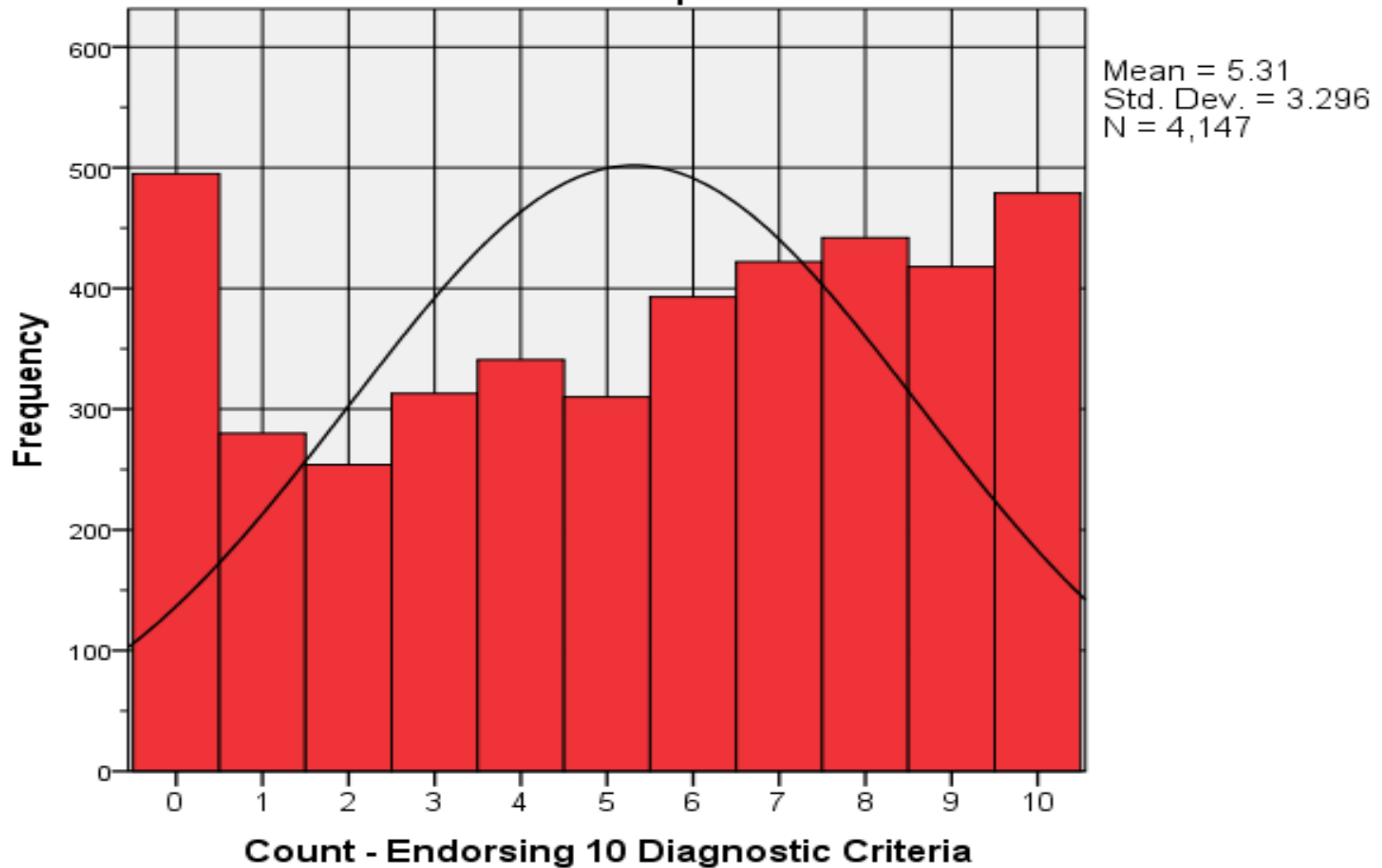
Diagnostic Criteria Fit

N = 4147

- Participants less than three = 15 – 24 %
- Population Mean = 5.4
- Average outpatient = 5.3
- Average inpatient = 6.5

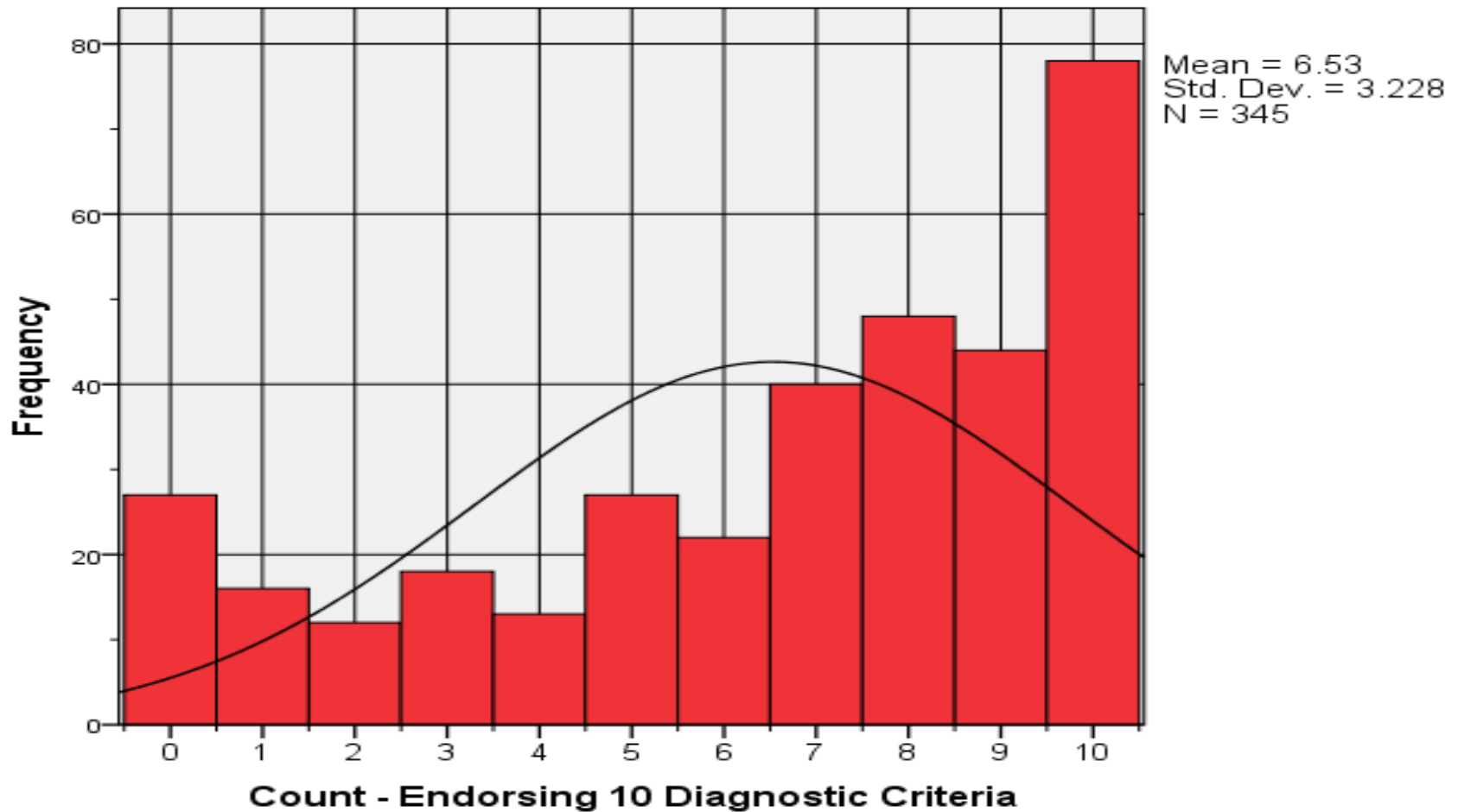
Outpatients

Outpatients

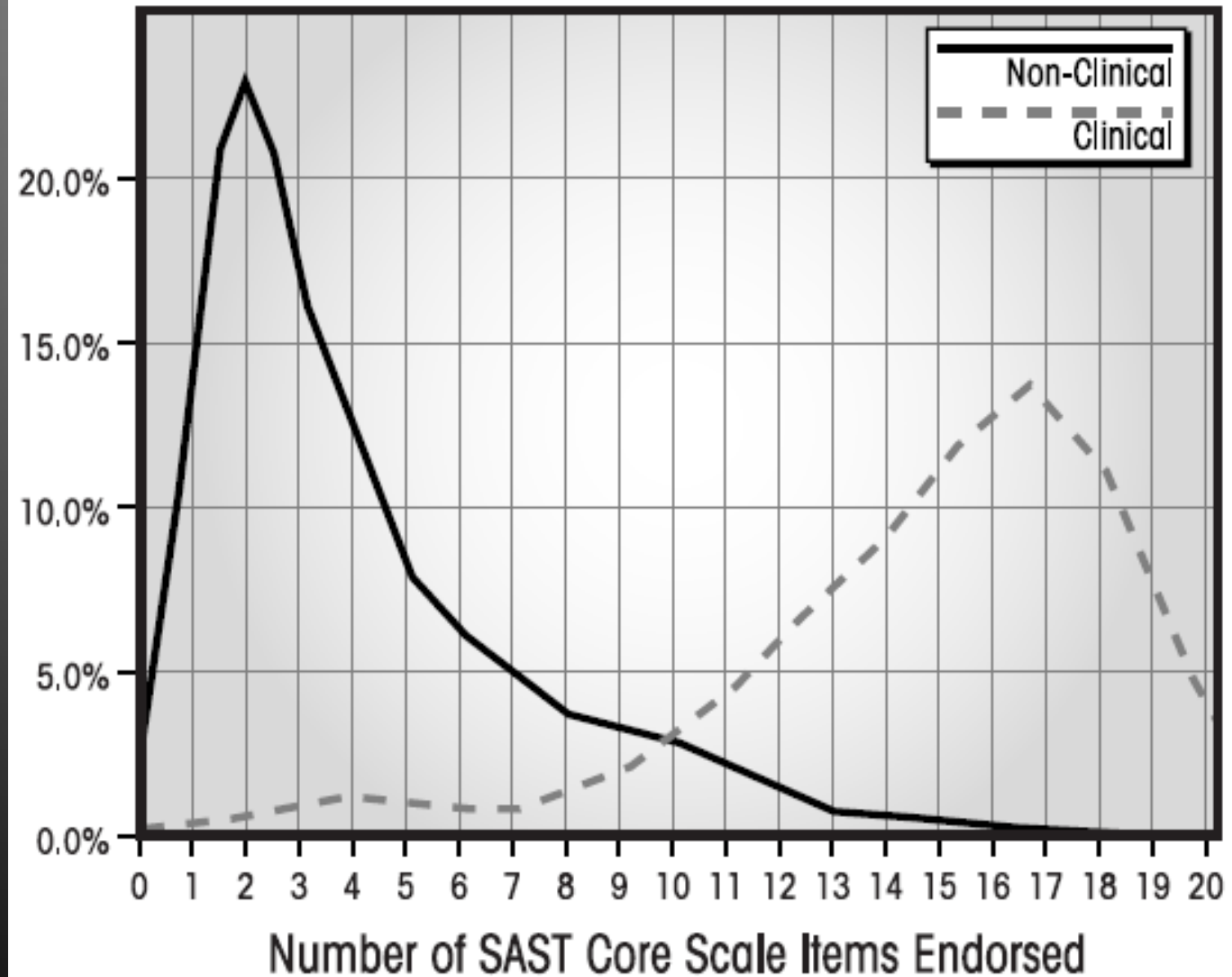


Inpatients

Inpatients

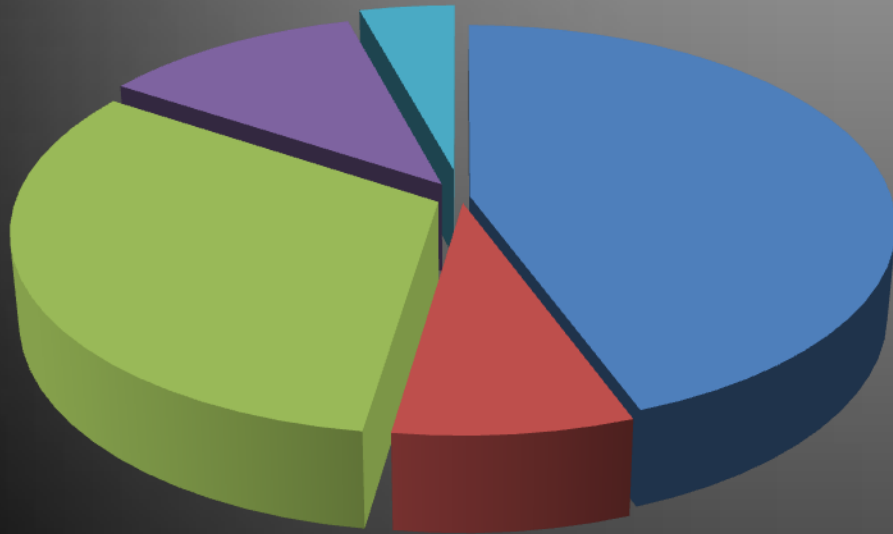


New SAST Graph



I took the SAST online because...

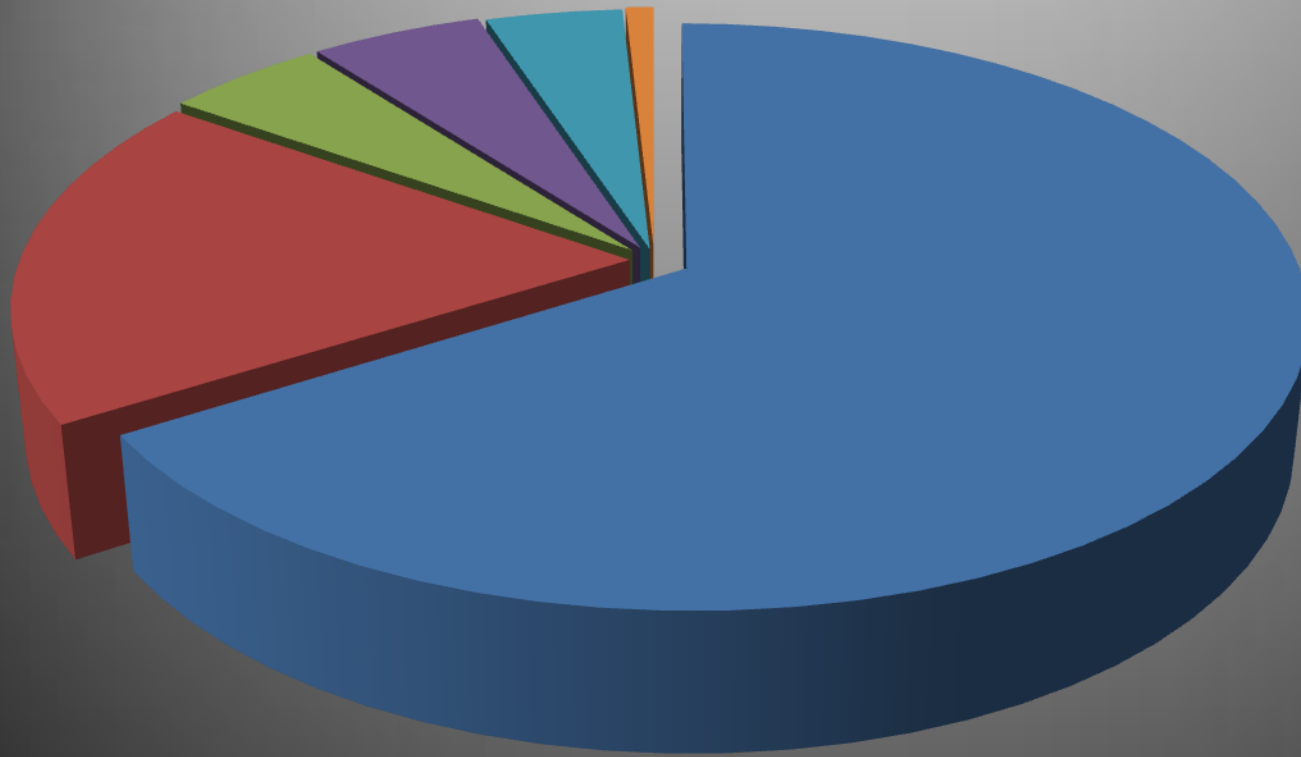
- I have no concerns about my sexual behavior but am curious how I would score.
- I have no concerns about my sexual behavior but others are concerned.
- I am having problems with my sexual behavior but do not consider myself a "sex addict".
- I know I am a sex addict.
- I have sought therapy because of my sexual problems.



No concerns	$n = 100,964$
Others concerned	$n = 18,076$
Problems, but	$n = 72,729$
I am a sex addict	$n = 26,148$
Sought therapy	$n = 9,622$
Total	$n = 227,539^*$

*Some respondents said yes to more than one option ("I know I am a sex addict" and "I have sought therapy..."), for example) so the total is greater than the number of actual participants (207,859).

Gender by Orientation Groups



■ Heterosexual Males

■ Heterosexual Females

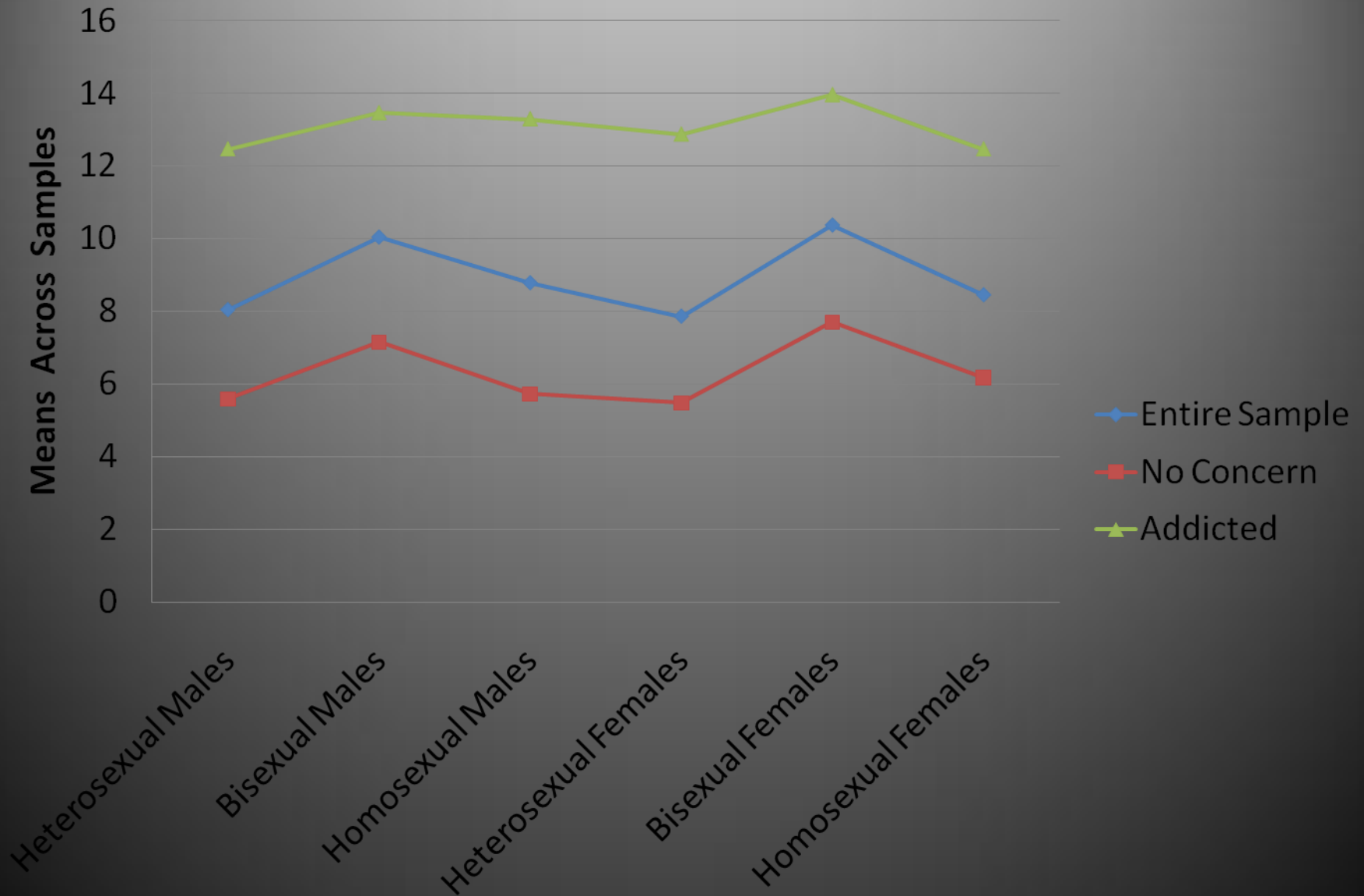
■ Bisexual Males

■ Bisexual Females

■ Homosexual Males

■ Homosexual Females

20 Core Items of the SAST



Note. The clinical cutoff for the SAST Core is 6.

Development of the PATHOS

- Super short (6-item) screener modeled on the CAGE alcohol abuse screener for medical setting use
 - Have you ever felt you should Cut down on your drinking?
 - Have people Annoyed you by criticizing your drinking?
 - Have you ever felt bad or Guilty about your drinking?
 - Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (Eye opener)?

Development of the PATHOS

- Preoccupied – Do you often find yourself preoccupied with sexual thoughts?
- Ashamed – Do you hide some of your sexual behavior from others?
- Treatment – Have you ever sought therapy for sexual behavior you did not like?
- Hurt others – Has anyone been hurt emotionally because of your sexual behavior?
- Out of control – Do you feel controlled by your sexual desire?
- Sad – When you have sex, do you feel depressed afterwards? (all items from the SAST Core scale)

Pathos Results - Men

- Pathos will correctly categorize clinical and non-clinical cases in men 85% of the time
- If a patient endorses 2 items...
 - Capture 82% of positive cases
 - Incorrectly categorize 30% as false positives
- Acceptable to have some false positives in a screening instrument

Pathos Results - Women

- Pathos will correctly categorize clinical and non-clinical cases 81% of the time
- If a patient endorses 2 items...
 - Capture 78% of positive cases
 - Incorrectly categorize 33% as false positives
- A little less sensitivity and specificity with smaller sample

Sex Addiction Hypothesis

- Fits the criteria for addiction
- Partially fits the compulsion framework

Sex Addiction Hypothesis

- Fits the criteria for addiction
- Partially fits the compulsion framework
- Differentiates from other mental health issues

The New SDI Map

Original Typology 1991 (104 Behaviors)	Revised Typology 2004 (175 Behaviors)	New Typology 2008 (240 Behaviors)	New Clinical Scales 2008 (240 Behaviors)
Fantasy Sex	Fantasy Sex	Fantasy Sex	Eroticized Rage & Subscales: Eroticized Rage Overt Invasion Covert Invasion Boundary Invasion Entitlement
Seductive Role Sex	Seductive Role Sex	Seductive Role Sex	
Voyeuristic	Voyeuristic	Voyeurism Pornography	
Exhibitionism	Exhibitionism	Exhibitionism	
Intrusive	Intrusive	Intrusive ¹	
Paying	Paying	Paying (Commercial) Paying (Power)	
Trading	Trading	Trading ¹	
Anonymous	Anonymous	Anonymous	
Pain Exchange	Pain Exchange	Pain Exchange	
Sex with Children	Exploitation of the Vulnerable	Exploitation: Trust Exploitation: Children Exploitation: Force	
Object Sex		Object Sex	
		Drug Interaction ^{1,2}	
		Internet ^{1,2}	
		Masturbation ^{1,2}	
		Paraphilias/Special Items	
			Preoccupation Scales: Preoccupied Personal Preoccupied Relational Preoccupied Isolated Preoccupied Public Anonymous Preoccupied Online Anonymous Preoccupied Sadomasochism Preoccupied Financial

¹Modified

²New

Components 1 and 2

Hostile/Aggressive/Pain

Masturbation Beh.	.932
Exhibitionism Beh.	.929
Reverse Invasion ER Clin.	.846
Object Sex Beh.	.813
Paraphilias Beh.	.738
Sadomasochism Preocc. Clin.	.633
Pain Exchange Beh.	.569
Drug interaction Beh.	.550
Anonymous Beh.	.549
Public Anonymous Preocc. Clin.	.518
Boundary Violation ER Clin.	.516
Exploitive Force Beh.	.420

Preoccupied/Indiscriminant

Internet Sex Beh.	.914
Online Anonymous Preocc. Clin.	.782
Trading Sex Beh.	.771
Paying Commercial Beh.	.613
Financial Preocc. Clin.	.504

Components 3 and 4

Abuse of Trust or Power

Exploitive Trust Beh.	.970
Seductive Role Sex Beh.	.808
Paying Power Beh.	.728
Covert Invasion ER Clin.	.711
Relational Preocc. Clin.	.706
Intrusive Sex Beh.	.568
Personal Preocc. Clin.	.492

Isolated/Predatory

Overt Invasion ER Clin.	.838
Exploitive Child Beh.	.822
Pornography Beh.	.802
Isolated Preocc. Clin.	.781
Voyeurism Beh.	.449
Fantasy Beh.	.401

The Black Hole – Addiction Interaction

Substances

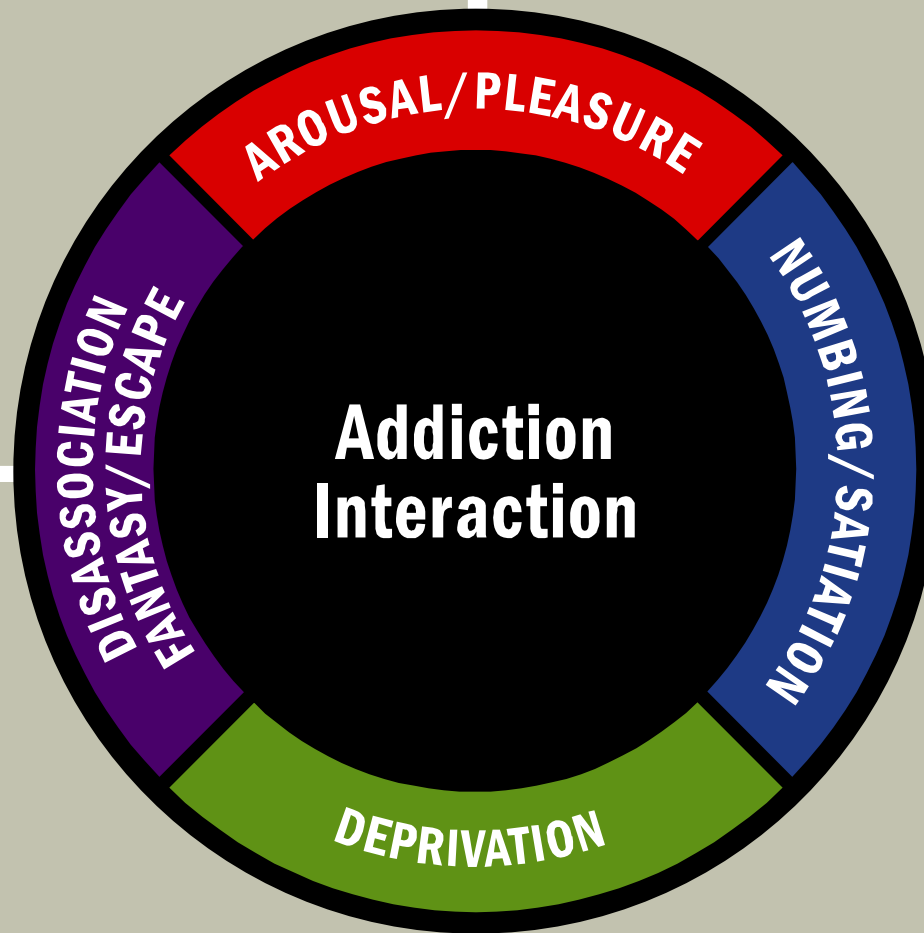
- alcohol
- cocaine
- amphetamines
- tobacco
- depressants

Processes/ Appetites

- food
- sex and love
- work
- money
- exercise

Core Affect States

- despair
- intensity/risk
- self-loathing
- shame
- misery
- rage



Relationships

- co-dependency
- co-sex addiction
- traumatic bonding
- love addiction
- romance/
limerence

Interaction

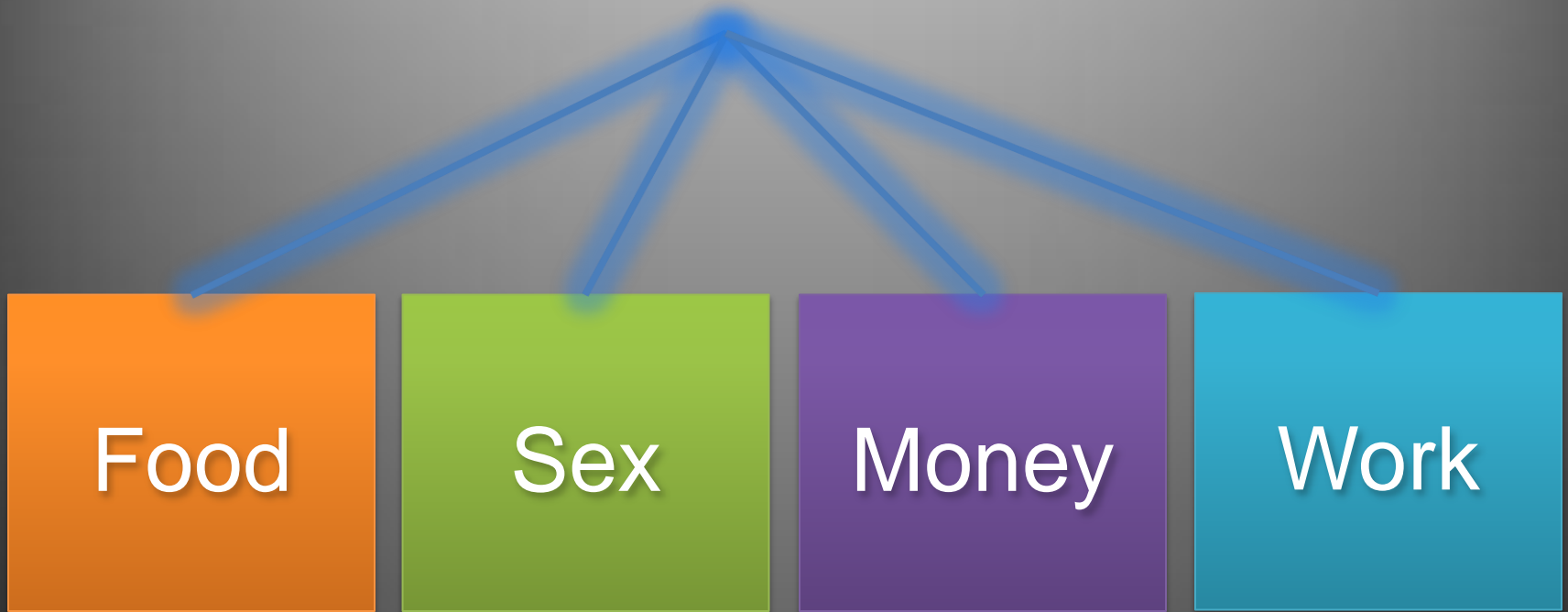
Substances

Processes

Affect

Attachment

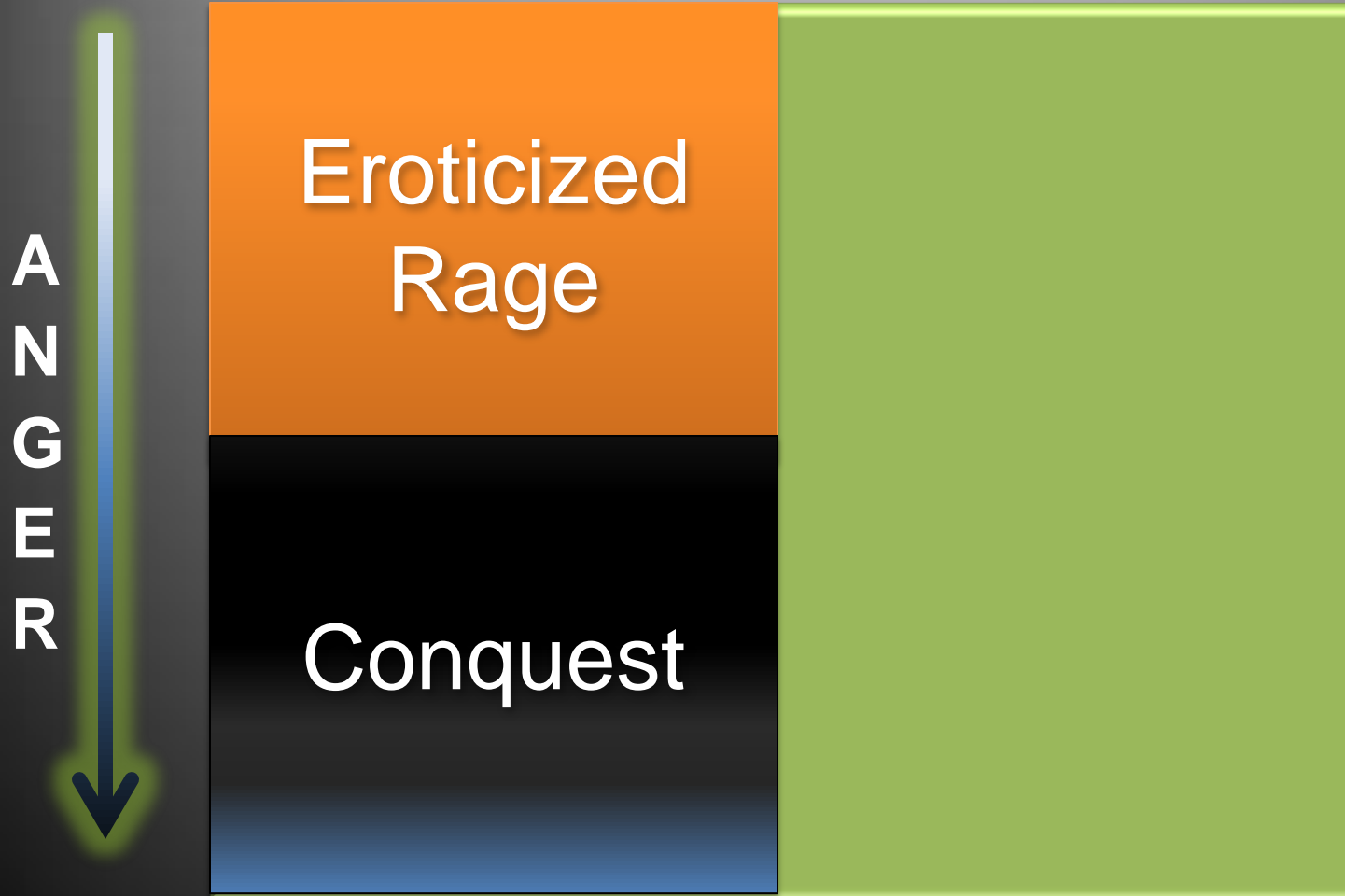
Processes



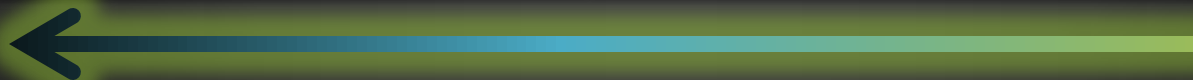
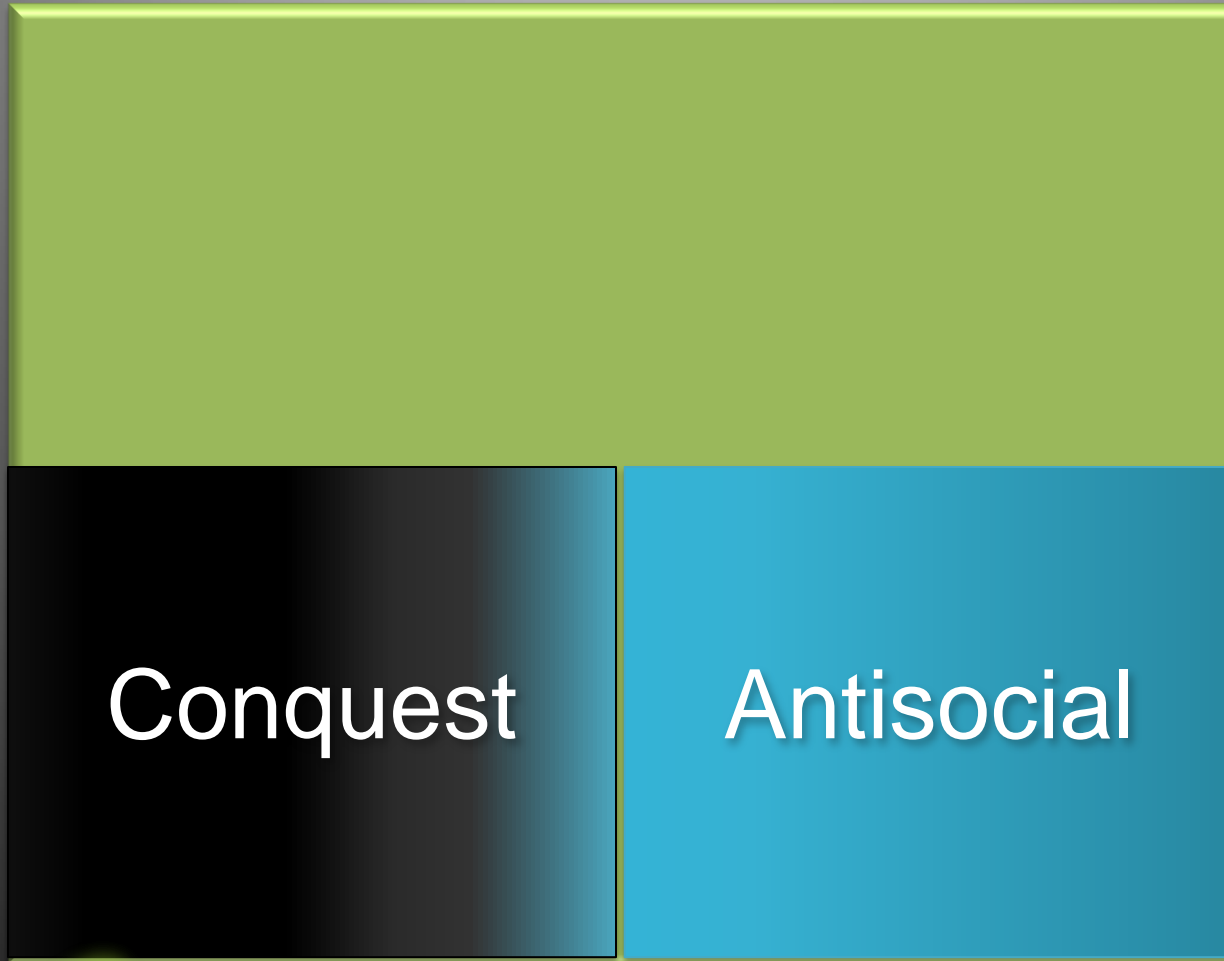
Sex Addiction



Sex Addiction: Anger



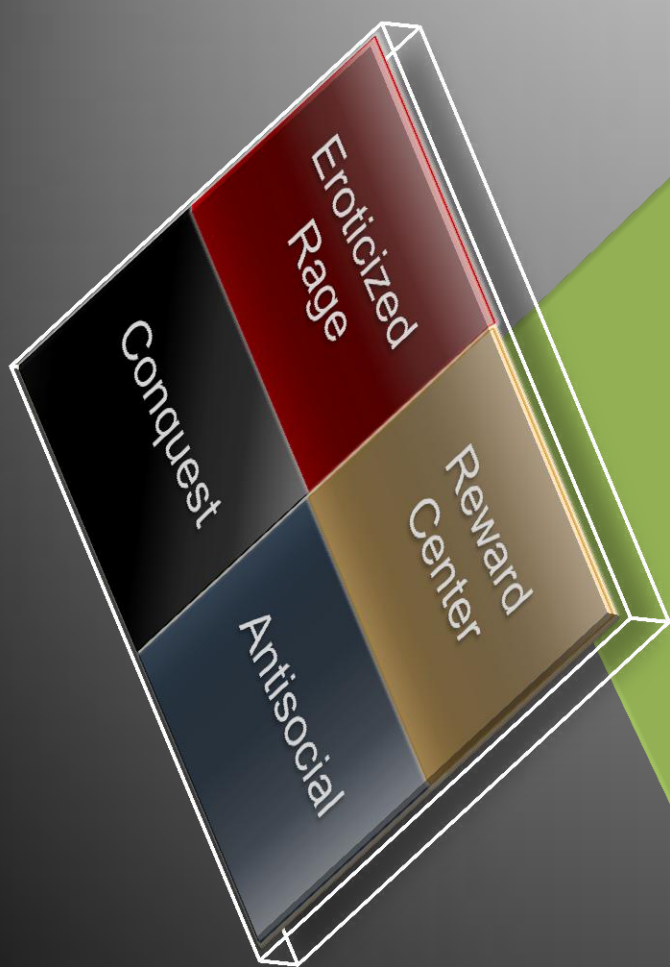
Sex Addiction: Power



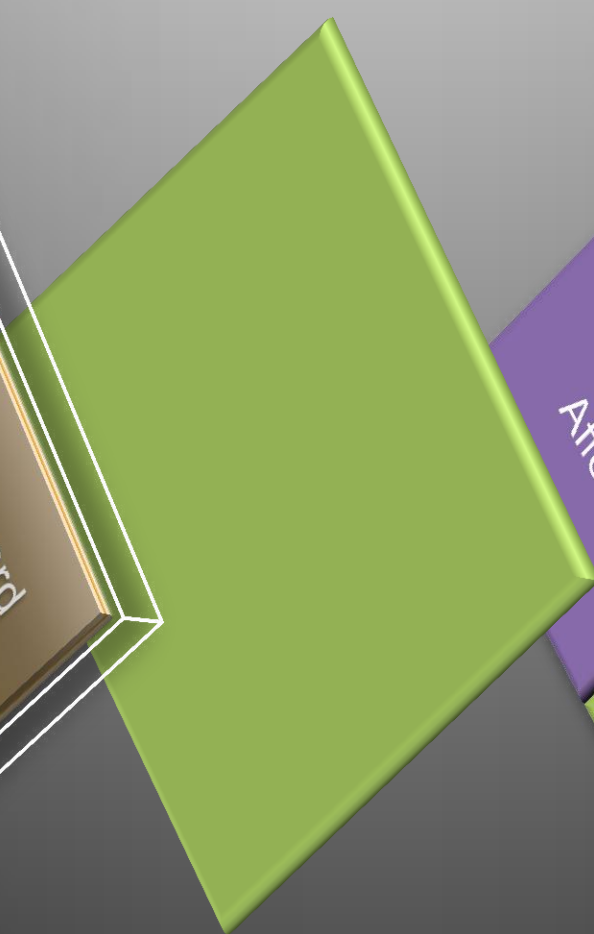
POWER

Sex Addiction: The Four Clouds





Four Clouds
Of Sex Addiction



Sex Addiction



Addiction
Interaction

“The addictive dependence on
feelings of pain...”

Alice Miller, *The Drama of
the Gifted Child*

Sex Addiction Factors predicted by MMPI-2-RF Higher-Order Scales

SDI-R Factor	R	MMPI-2-RF H-O Scale Predictors	Beta	Significance
Aggressive/Hostile/Pain	.406	EID	.129	p = .06 (marginal)
		BXD	.354	P < .001
Preoccupied/Indiscriminant	.272	BXD	.228	p < .01
Abuse of Trust or Power	.293	BXD	.257	p < .001
Isolated/Predatory	.471	EID	.240	p < .001
		BXD	.368	p < .001

Sex Addiction Factors predicted by MMPI-2-RF Specific Problems (SP) Scales

SDI-R Factor	R	MMPI-2-RF SP Scale Predictors	Beta	Significance
Aggressive/Hostile/Pain	.458	JCP	.186	p < .01
		SUB	.149	p < .05
		ACT	.163	p < .05
		STW	.210	p < .05
Preoccupied/Indiscriminant	.225	SUB	.134	p=.059 (marginal)
		AGG	.136	p=.085 (marginal)

Sex Addiction Factors predicted by MMPI-2-RF Higher-Order Scales

SDI-R Factor	R	MMPI-2-RF H-O Scale Predictors	Beta	Significance
Aggressive/Hostile/Pain	.406	EID	.129	p = .06 (marginal)
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Addiction Foundations

- Brain Disease
- Maladaptive Response to Stress
- Attachment etiology
- Process Addictions

A unified framework for addiction: Vulnerabilities in the decision process

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Abstract: The understanding of decision-making systems has come together in recent years to form a unified theory of decision-making in the mammalian brain as arising from multiple, interacting systems (a planning system, a habit system, and a situation-recognition system). This unified decision-making system has multiple potential access points through which it can be driven to make maladaptive choices, particularly choices that entail seeking of certain drugs or behaviors. We identify 10 key vulnerabilities in the system: (1) moving away from homeostasis, (2) changing allostatic set points, (3) euphorogenic "reward-like" signals, (4) overvaluation in the planning system, (5) incorrect search of situation-action-outcome relationships, (6) misclassification of situations, (7) overvaluation in the habit system, (8) a mismatch in the balance of the two decision systems, (9) over-fast discounting processes, and (10) changed learning rates. These vulnerabilities provide a taxonomy of potential problems with decision-making systems. Although each vulnerability can drive an agent to return to the addictive choice, each vulnerability also implies a characteristic symptomatology. Different drugs, different behaviors, and different individuals are likely to access different vulnerabilities. This has implications for an individual's susceptibility to addiction and the transition to addiction, for the potential for relapse, and for the potential for treatment.

Keywords: Addiction; decision making; dopamine; frontal cortex; gambling; hippocampus; striatum

1. Introduction

Addiction can be operationally defined as the continued making of maladaptive choices, even in the face of the explicitly stated desire to make a different choice (see the *Diagnostic and Statistical Manual of Mental Disorders [DSM-IV-TR]*, American Psychiatric Association 2000; *International Classification of Diseases [ICD-10]*, World Health Organization 1992). In particular, addicts continue to pursue drugs or other maladaptive behaviors despite terrible consequences (Altman et al. 1996; Goldstein 2000; Koob & Le Moal 2006; Lowinson et al. 1997). Addictive drugs have been hypothesized to drive maladaptive decision-making through pharmacological interactions with neurophysiological mechanisms evolved for normal learning systems (Berke 2003; Everitt et al. 2001; Hyman 2005; Kelley 2004a; Lowinson et al. 1997; Redish 2004). Addictive behaviors have been hypothesized to drive maladaptive decision-making through interactions between normal learning systems and the reward distribution of certain behaviors (Custer 1984;

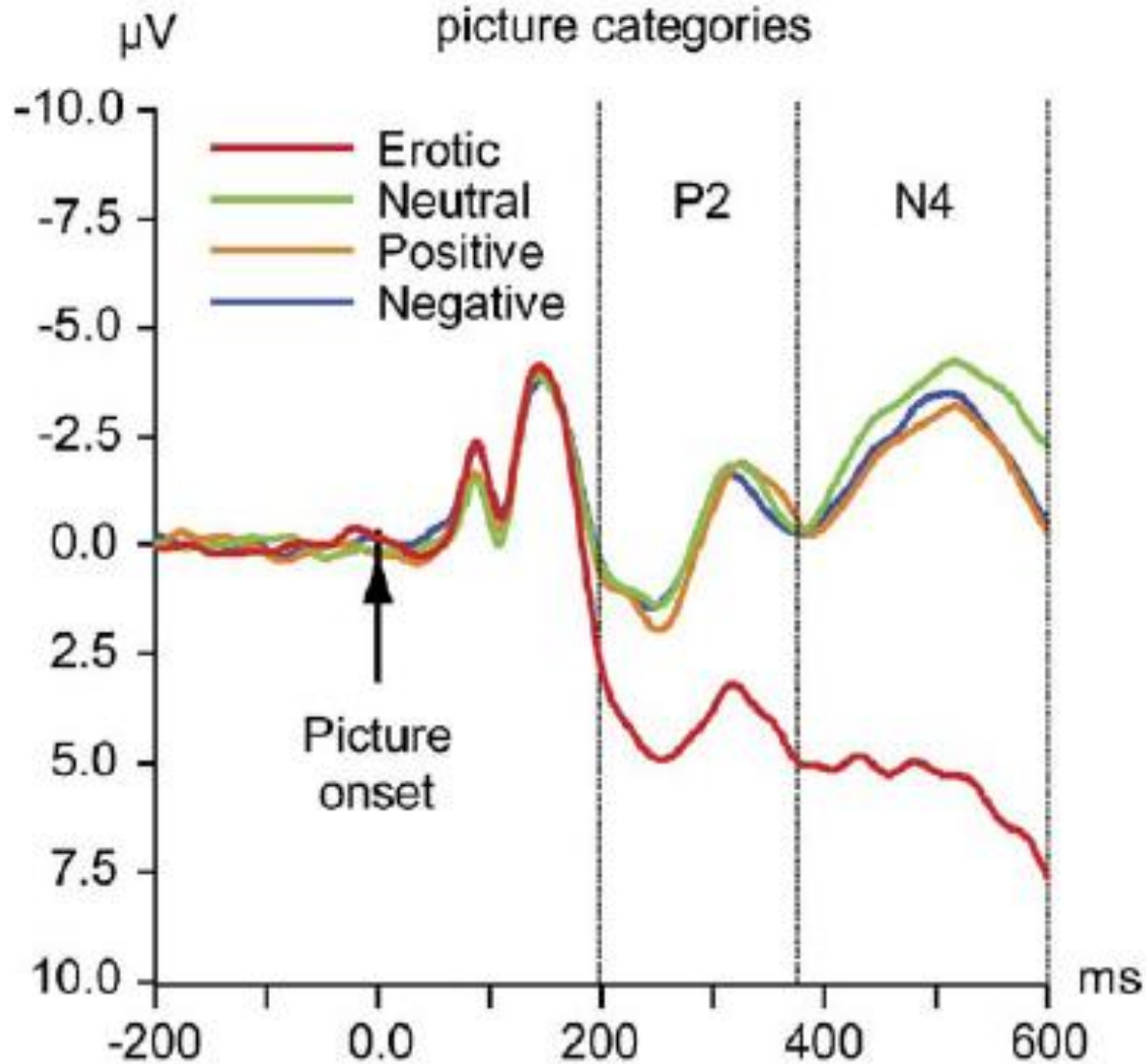
Dickerson & O'Connor 2006; Dowling et al. 2005; Parke & Griffiths 2004; Redish et al. 2007; Wagenaar 1988). However, how those interactions drive maladaptive decision-making remains a key, unanswered question.

Over the last 30 years, a number of theories have been proposed attempting to explain why an agent might continue to seek a drug or maladaptive behavior. These theories can be grouped into the following primary categories: (1) *opponent processes*, based on changes in homeostatic and allostatic levels that change the needs of the agent (Becker & Murphy 1988; Koob & Le Moal 1997; 2001; 2005; 2006; Solomon & Corbit 1973; 1974); (2) *reward-based processes and hedonic components*, based on pharmacological access to hedonically positive signals in the brain (Kalivas & Volkow 2005; Volkow et al. 2003; 2004; Wise 2004); (3) *incentive salience*, based on a sensitization of motivational signals in the brain (Berridge & Robinson 1998; 2003; Robinson & Berridge 1993; 2001; 2003; 2004); (4) *non-compensable dopamine*, based on a role of dopamine as signaling an error in the prediction of the value of taking an action, leading to

Rapid Discrimination of Visual Scene Content in the Human Brain

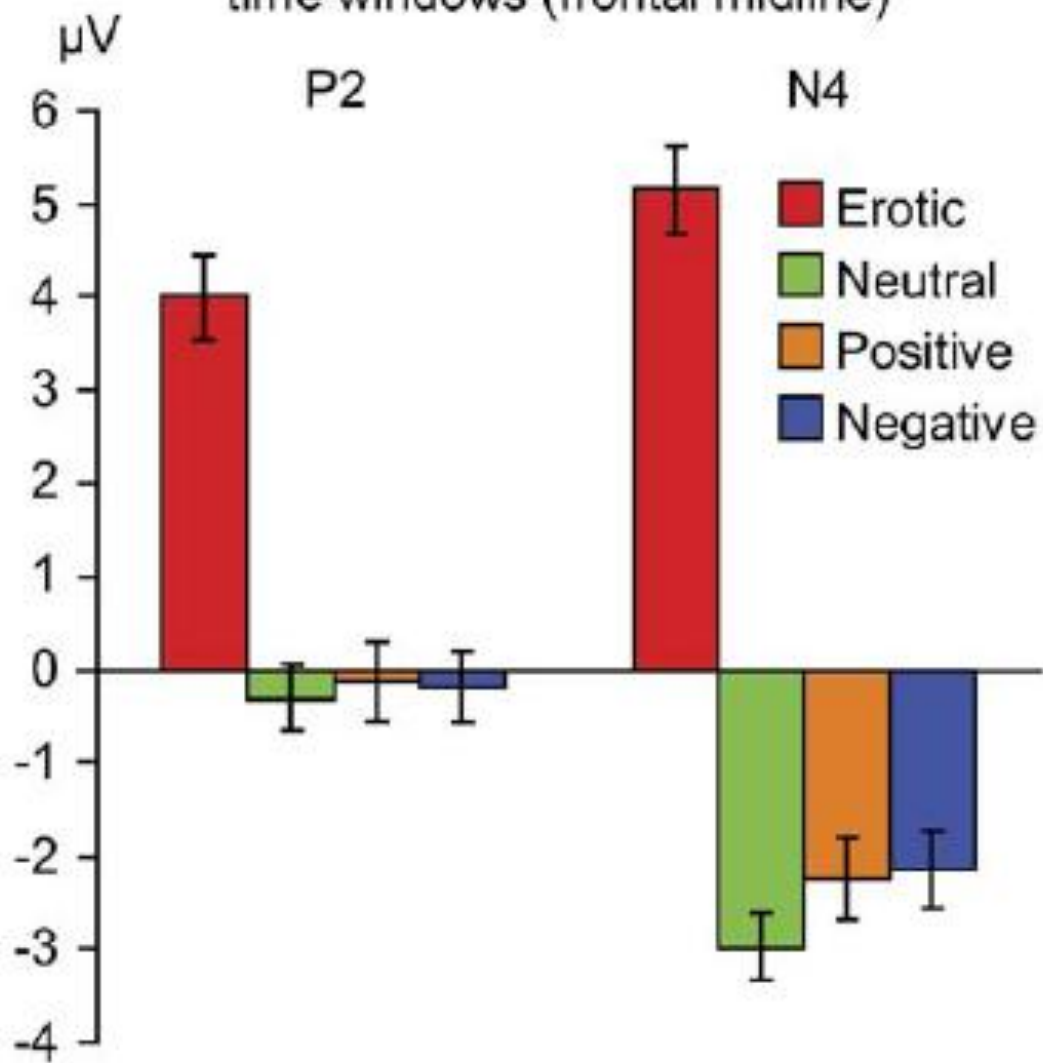
a

ERPs elicited by different picture categories



b

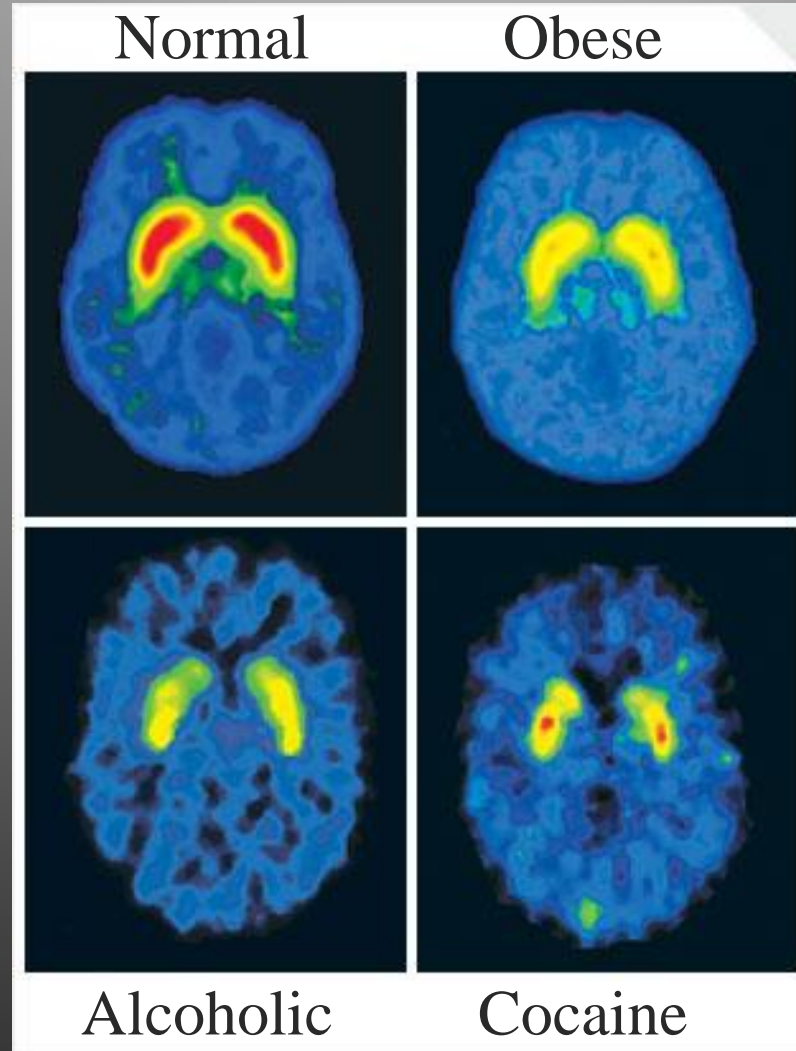
Mean amplitudes in P2 and N4
time windows (frontal midline)



Neurochemistry

Nucleus Accumbens—Brain's Reward Center

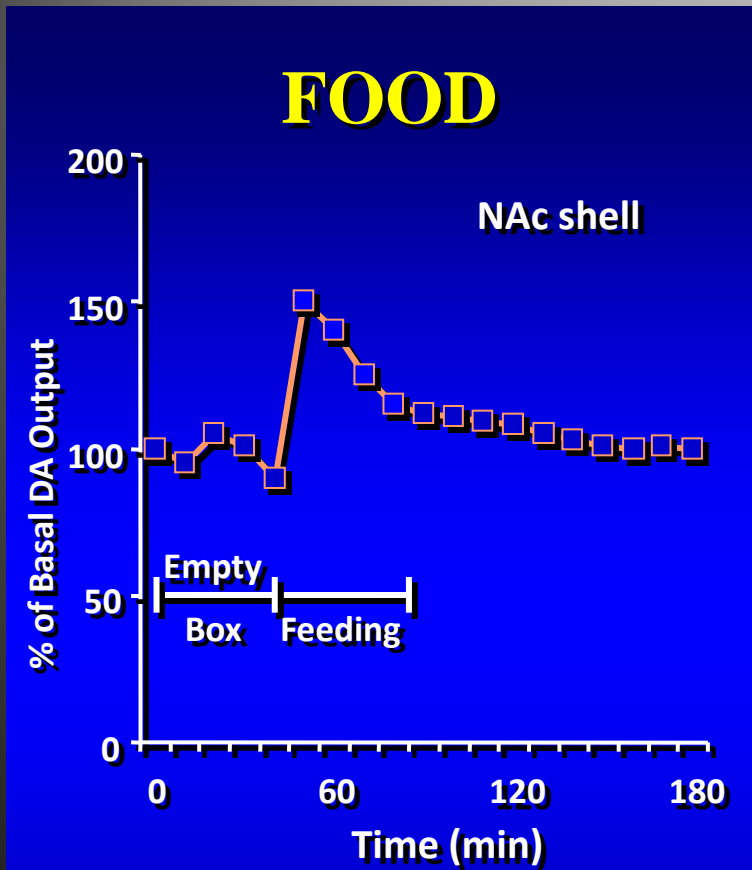
Red indicates high number of receptors for dopamine



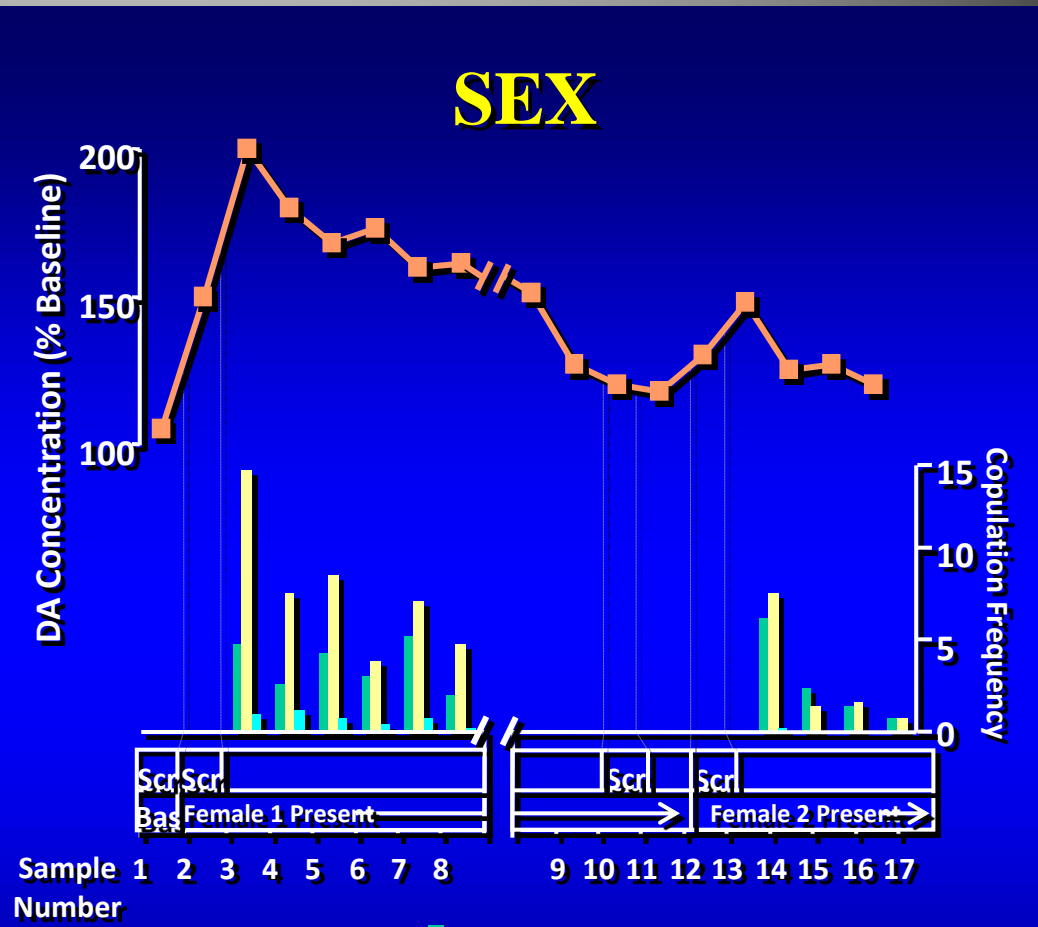
People short of dopamine have difficulty feeling joy.

Hans Breiter, director of the Motivation and Emotion Neuroscience Center at Massachusetts General Hospital

Natural Rewards Elevate Dopamine Levels

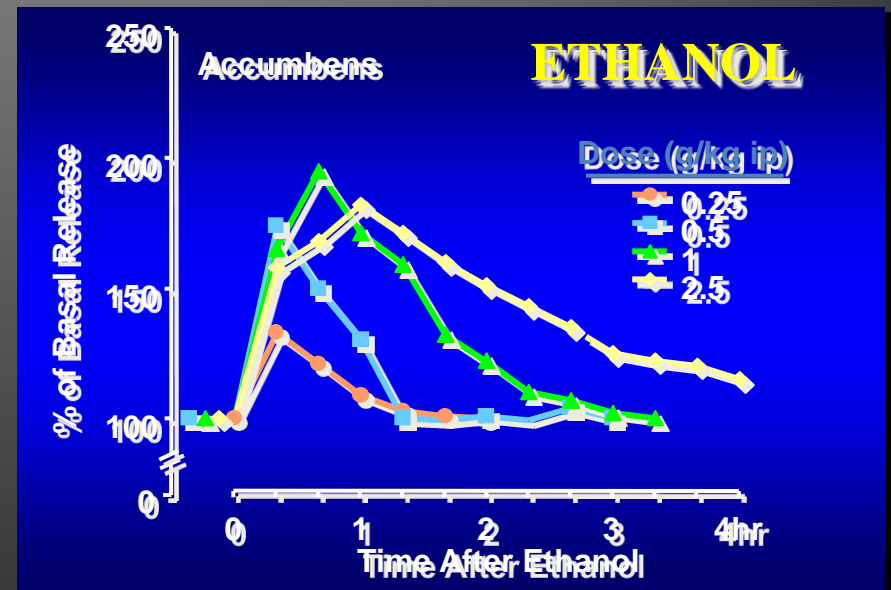
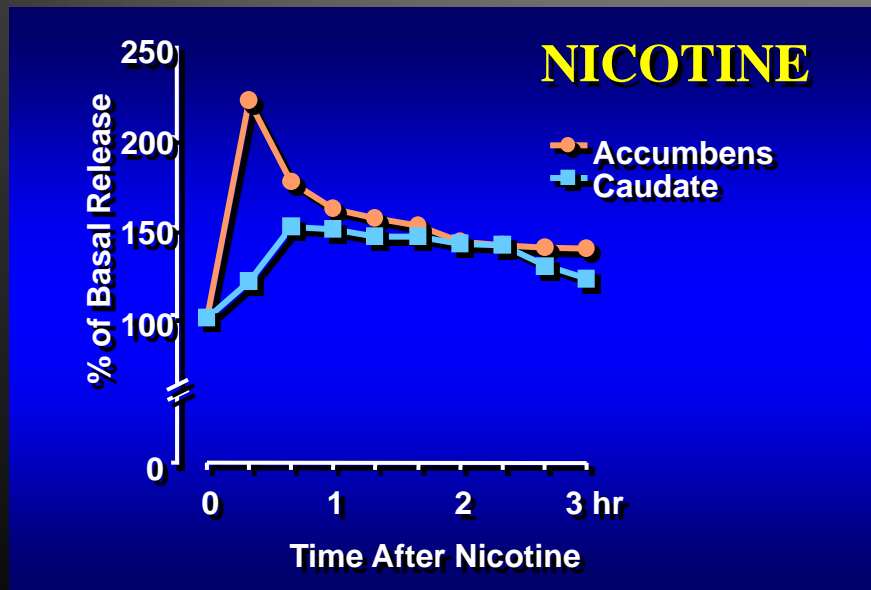
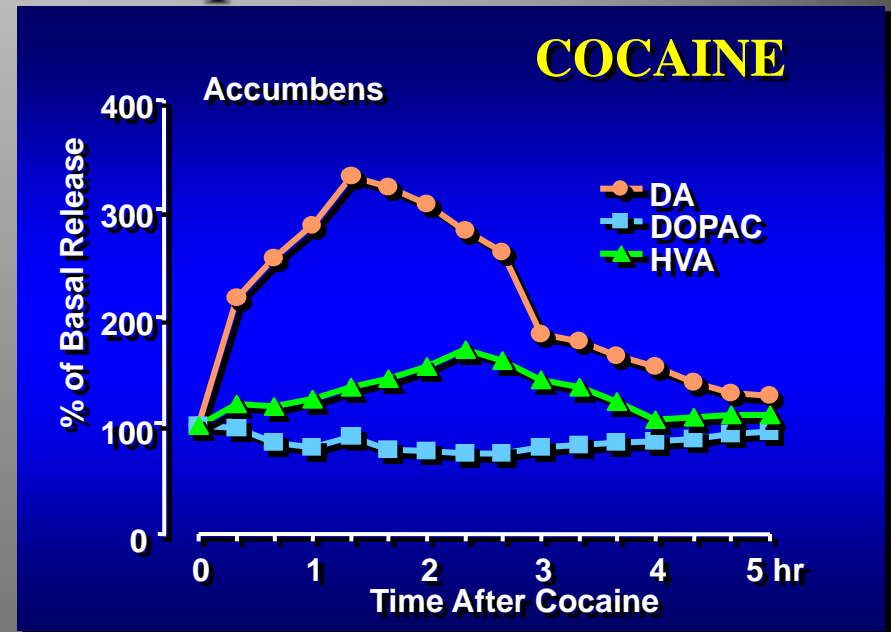
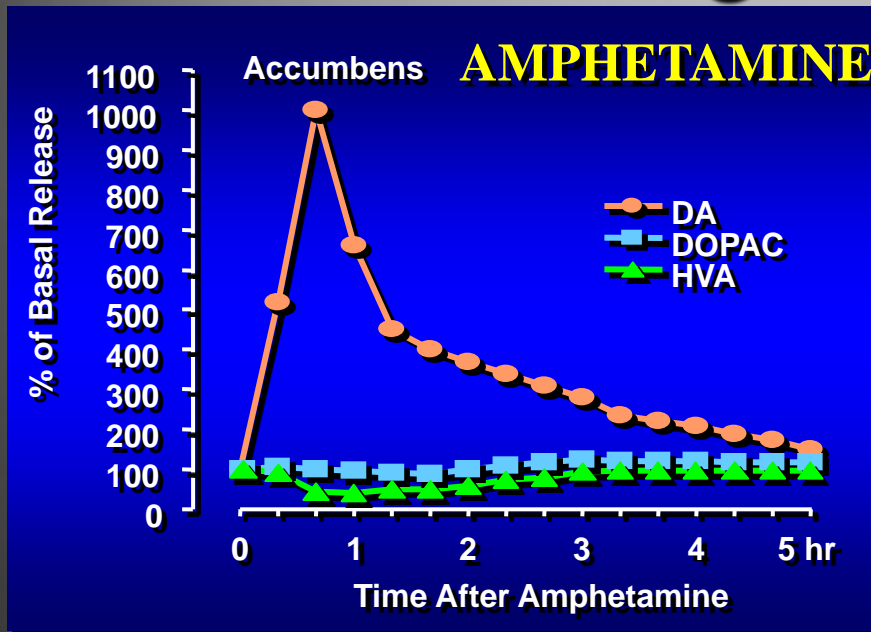


Source: Di Chiara et al.



Source: Fiorino and Phillips

Effects of Drugs on Dopamine Levels



Sex Addiction Hypothesis

- Fits the criteria for addiction
- Partially fits the compulsion framework
- Differentiates from other mental health issues
- Consistent with modern neuroscience

Sex Addiction Hypothesis

- Fits the criteria for addiction
- Partially fits the compulsion framework
- Differentiates from other mental health issues
- Consistent with modern neuroscience
- Consistent with foundational thinking about addiction

Other Addictions

- Co-morbid or co-occurring addictions are very high.

Other Addictions

- Chemical Dependency 42%
- Eating Disorders 38%
- Compulsive Working 28%
- Compulsive Spending 26%
- Compulsive Gambling 5%

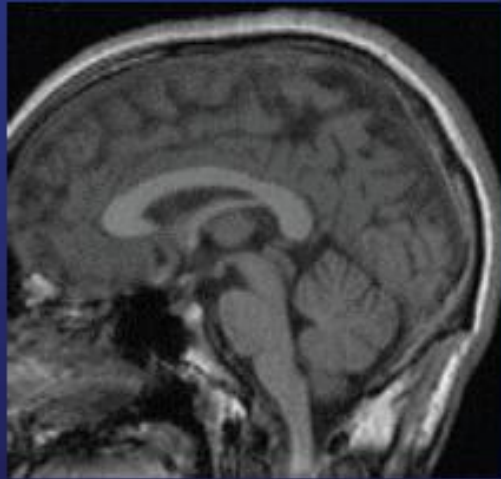
Addiction Foundations

- Brain Disease

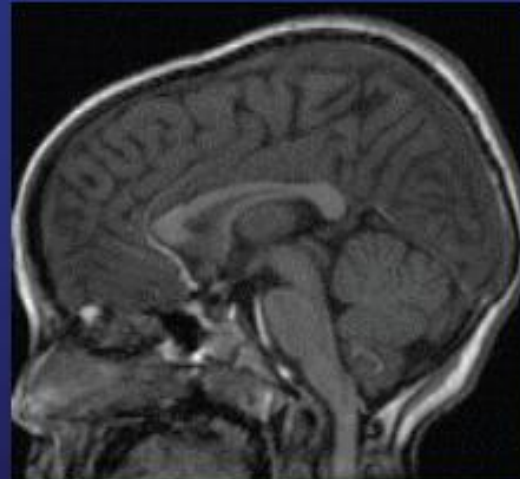
Addiction Foundations

- Brain Disease
- Maladaptive Response to Stress

Childhood abuse affects corpus callosum



Control



Neglect

The morphology of the corpus callosum is significantly affected by early neglect (as well as physical abuse and sexual abuse).

Teicher et al. (2004) Biological Psychiatry 56, 80-85

Addiction Foundations

- Brain Disease
- Maladaptive Response to Stress
- Attachment etiology

Attachment Table

	Sex Addict	Non- Addict
Secure	8%	40%
Preoccupied	28%	10%
Fearful	44%	40%
Dismissing	20%	10%

Addiction Foundations

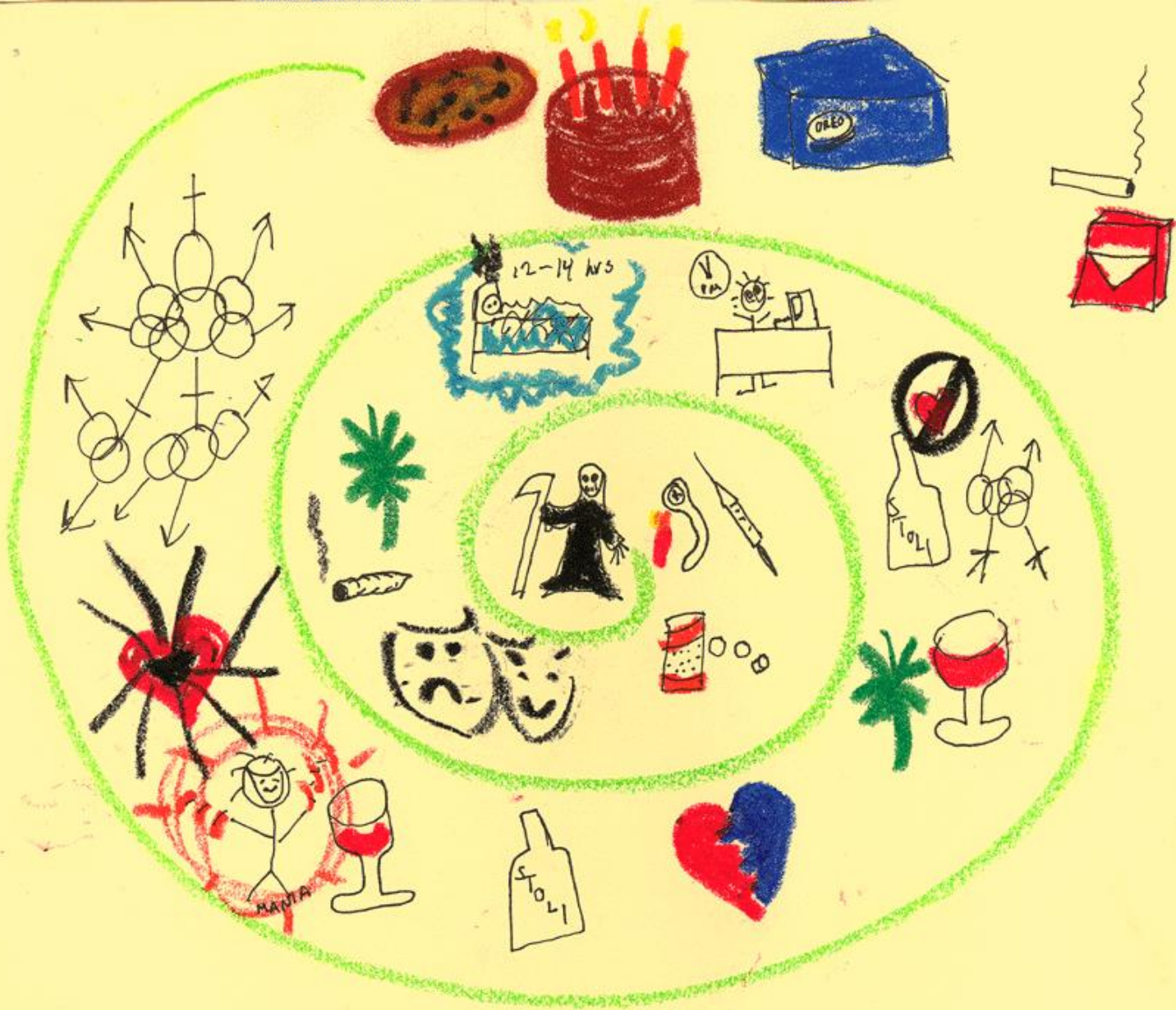
- Brain Disease
- Maladaptive Response to Stress
- Attachment Etiology
- Process Addictions
- Addiction Interaction

Addiction Interaction Disorder

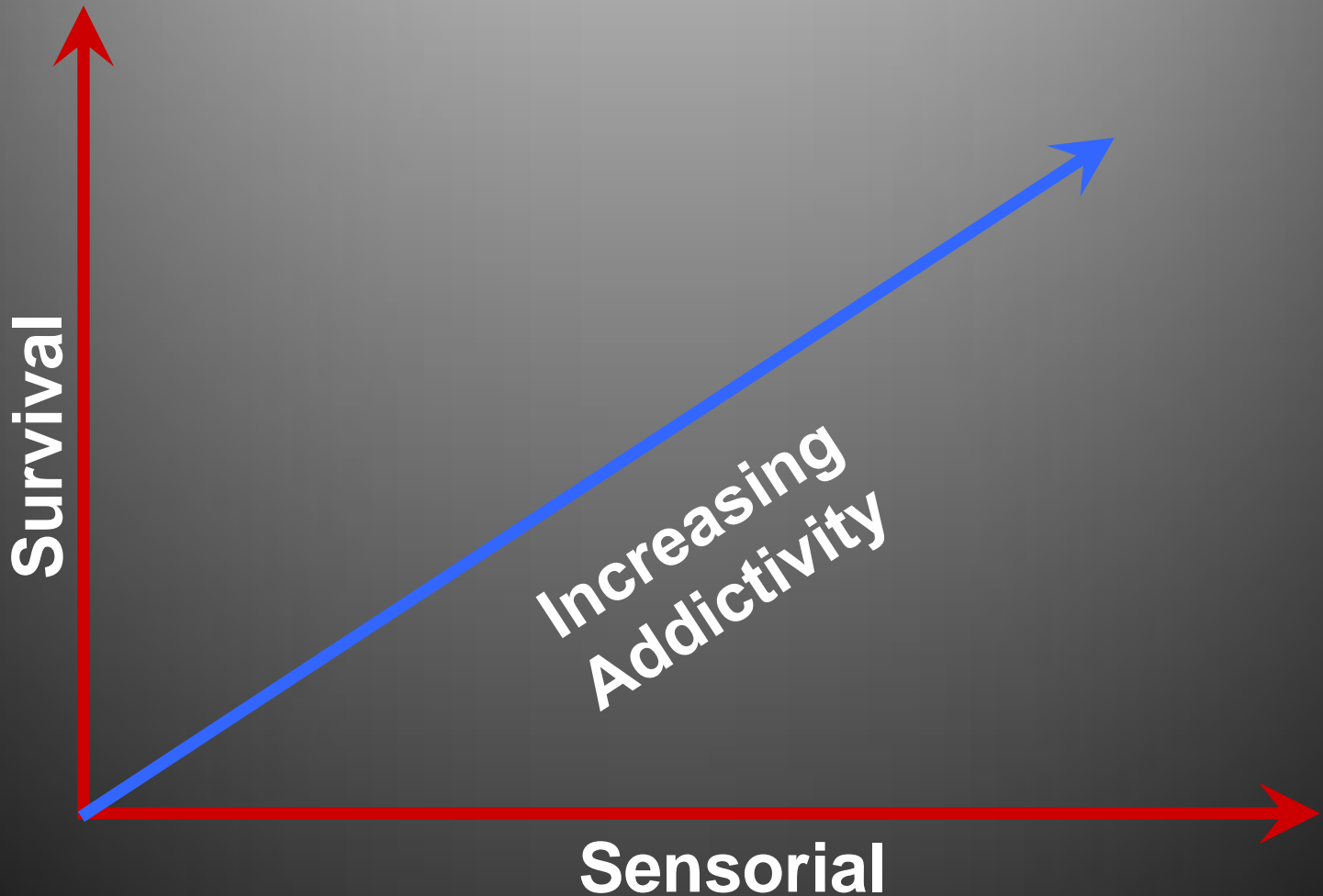
Addictions more than coexist, they interact, reinforce, become part of one another. They become packages.



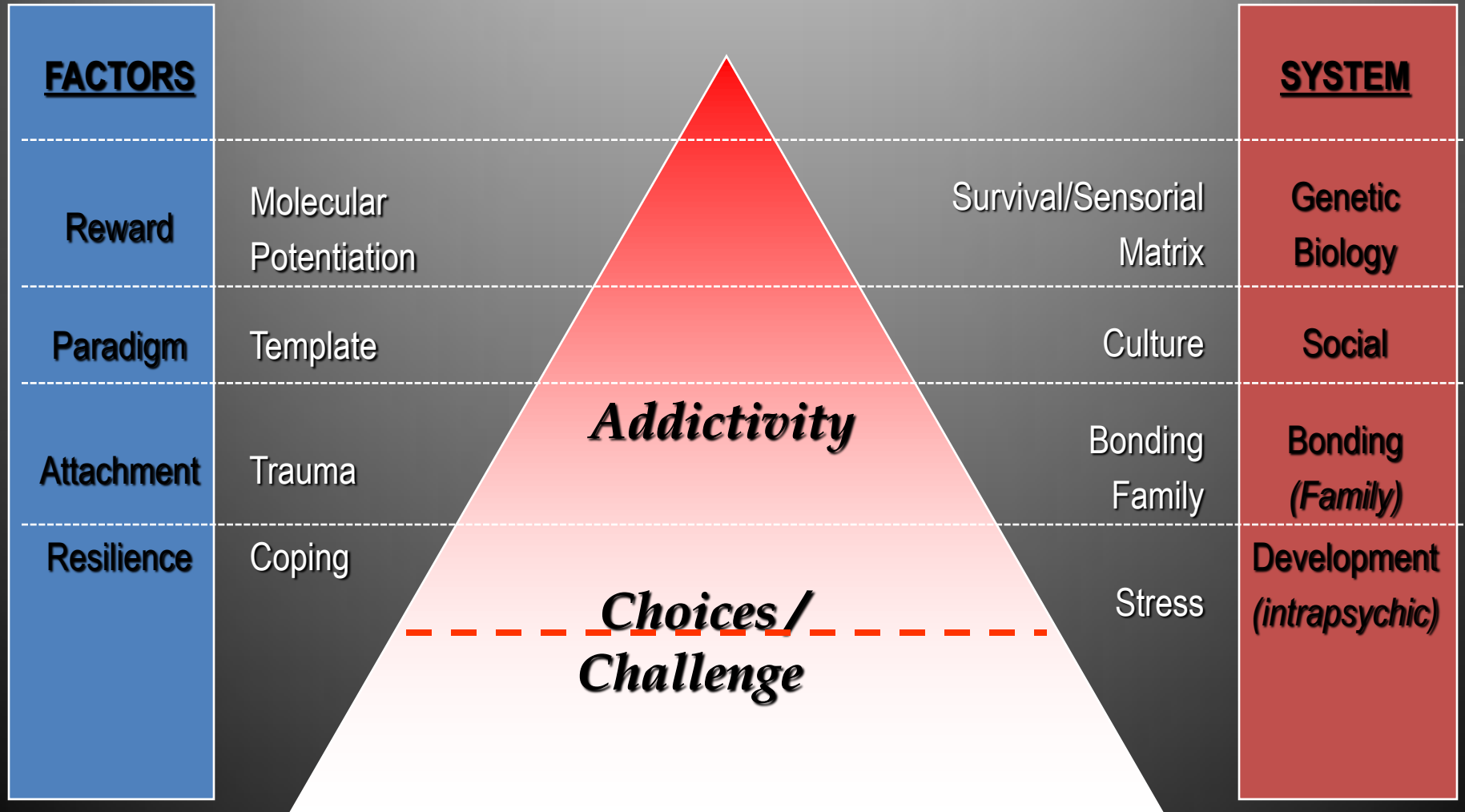
Fusion



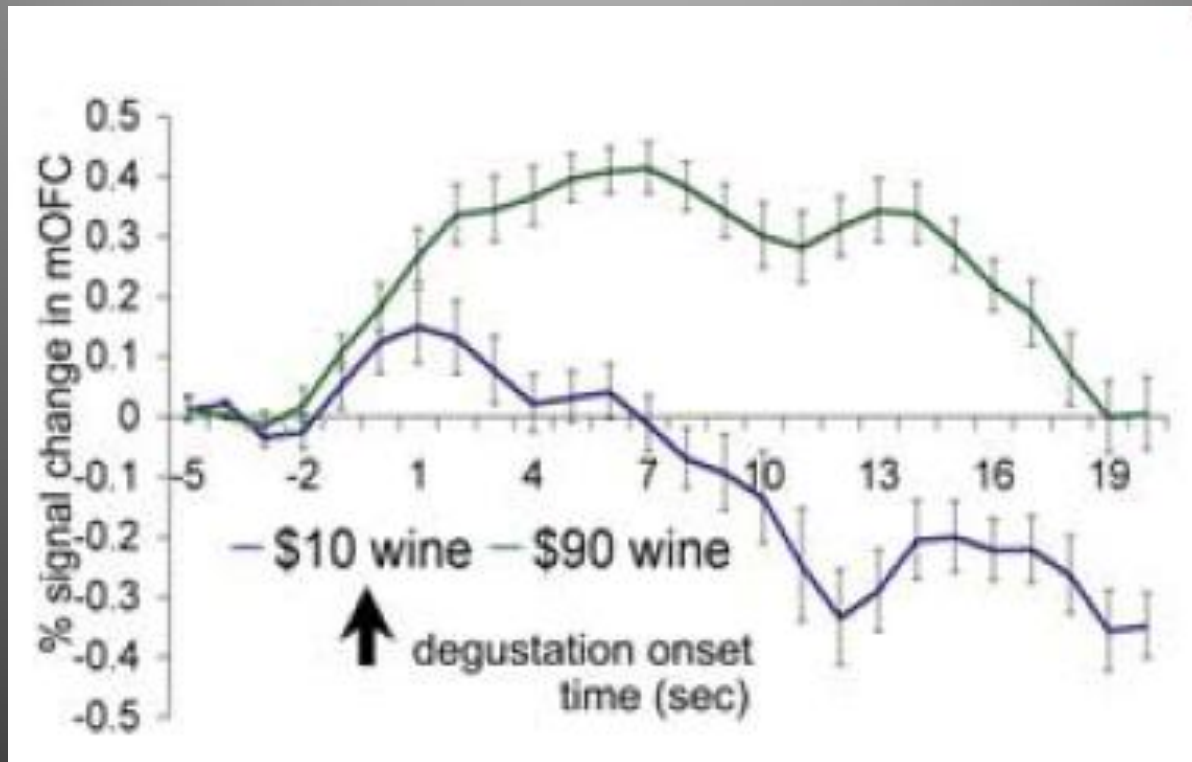
Survival/Sensorial Matrix



Addictivity



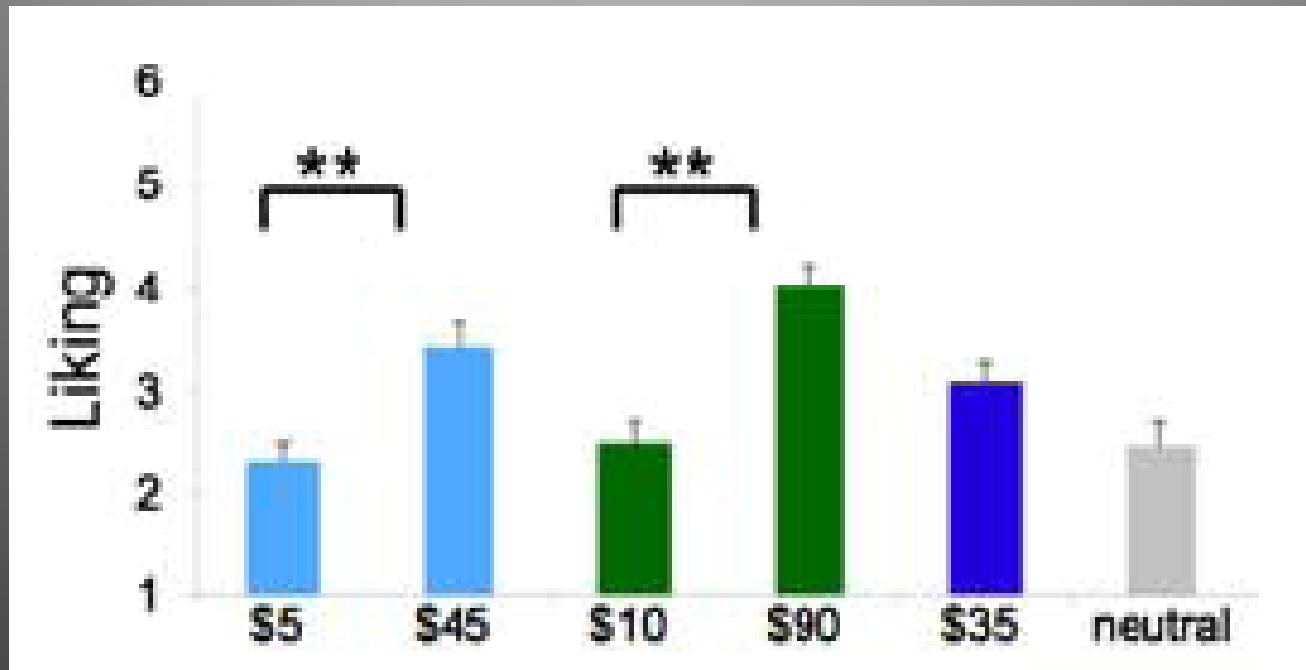
Wine Tasting at Stanford and CalTech



Do you get what you pay for? This graph shows the activity in the brain's pleasure center; there's more activity with wine subjects think costs \$90 a bottle (top line) than the same wine priced at \$10. The arrow shows the moment when the subjects started tasting the wine.

(Credit: CalTech, Stanford)

Wine Tasting



This chart shows that people ranked taste of a \$45 wine higher than the same wine priced at \$5, and the same for a different wine marked \$90 and \$10.

(Credit: CalTech, Stanford)

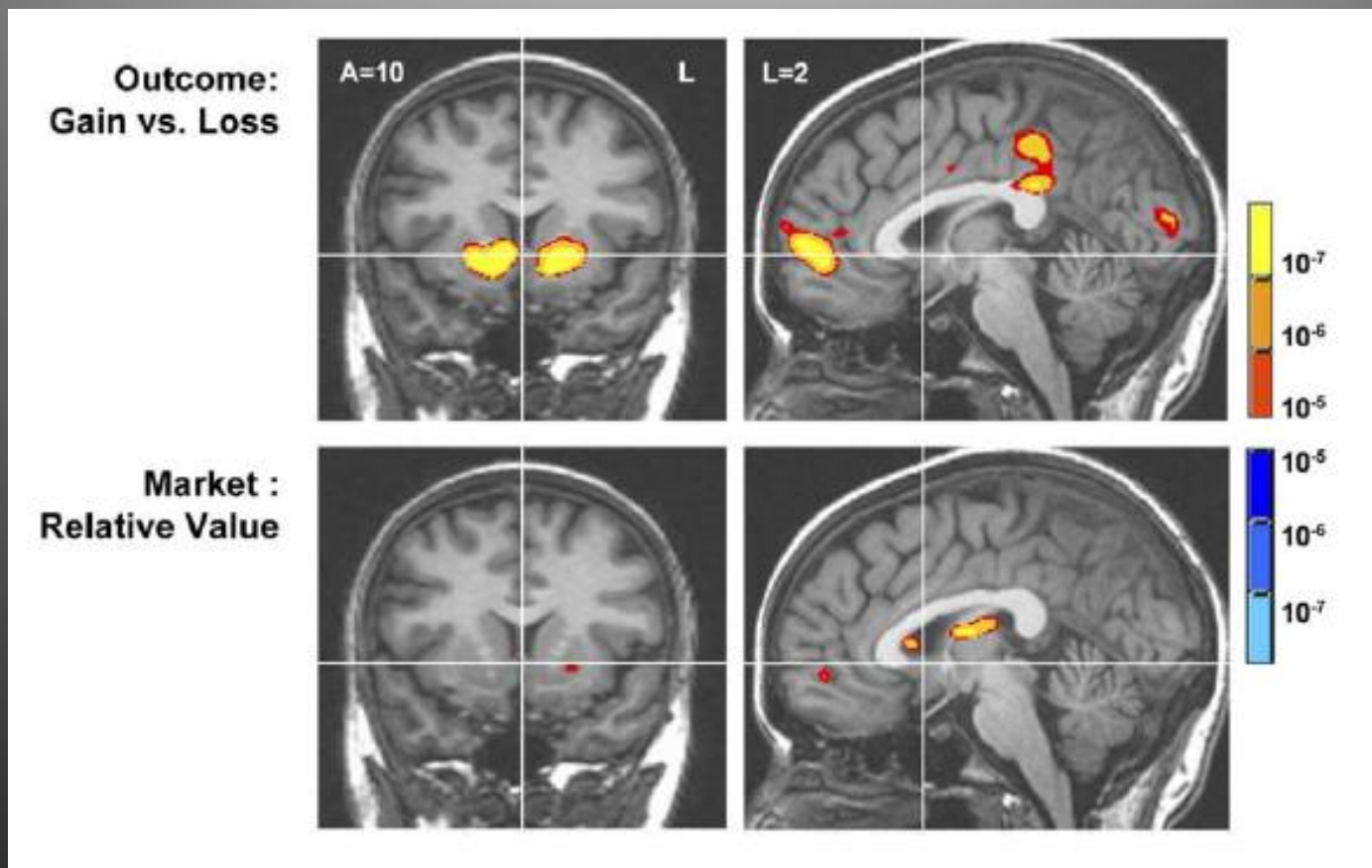
Near Misses Still a Trigger

Dr Luke Clark, lead author of the study, said: "Gamblers often interpret near-misses as special events, which encourage them to continue to gamble. Our findings show that the brain responds to near-misses as if a win has been delivered, even though the result is technically a loss."



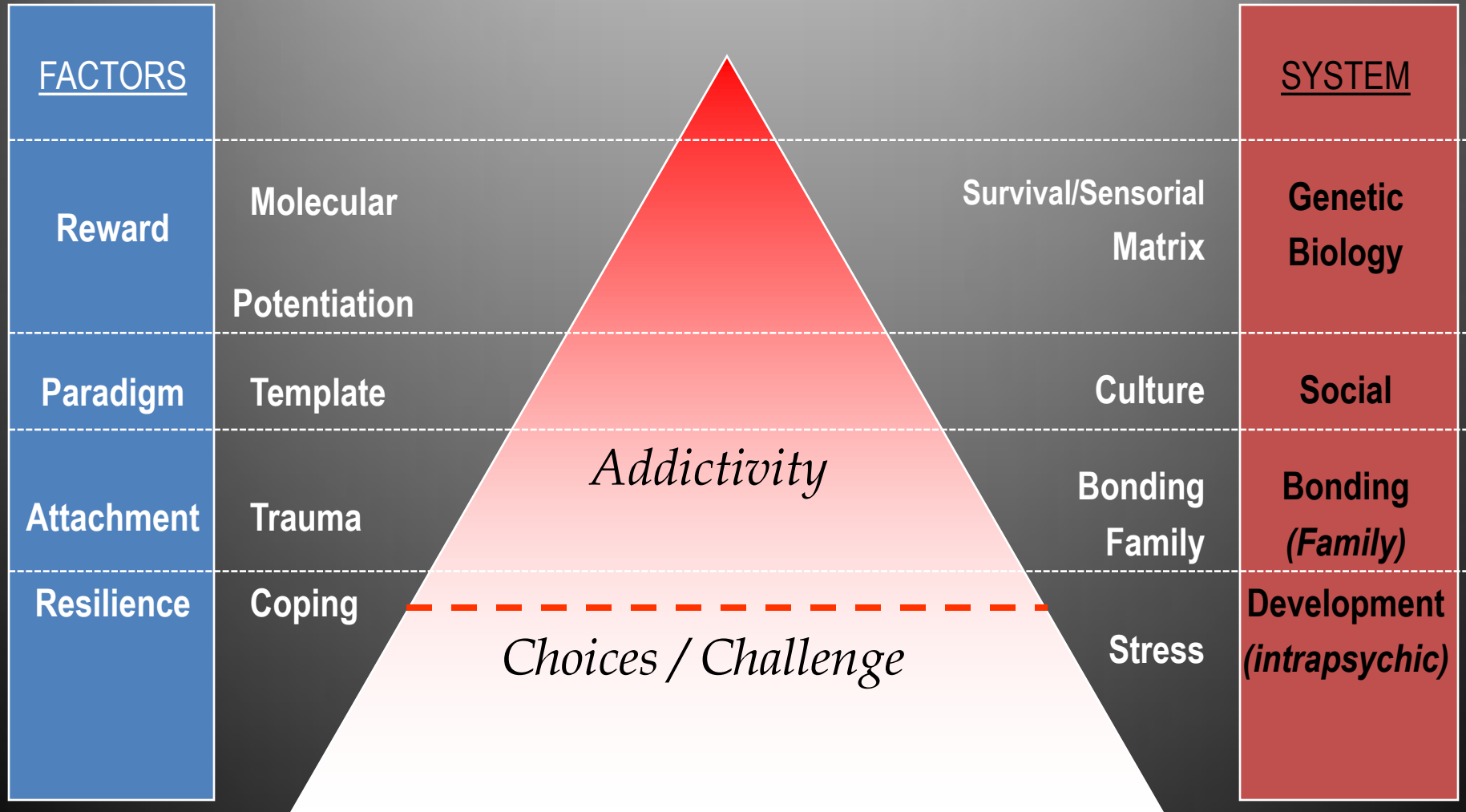
Gambling Near-Misses Enhance Motivation to Gamble and Recruit Win-Related Brain Circuitry. *Neuron*, 12 February 2009

Financial Risk Taking



Kuhnen, C. M., & Knutson, B. (2005). The Neural Basis of Financial Risk Taking. *Neuron* (47), 763-770.

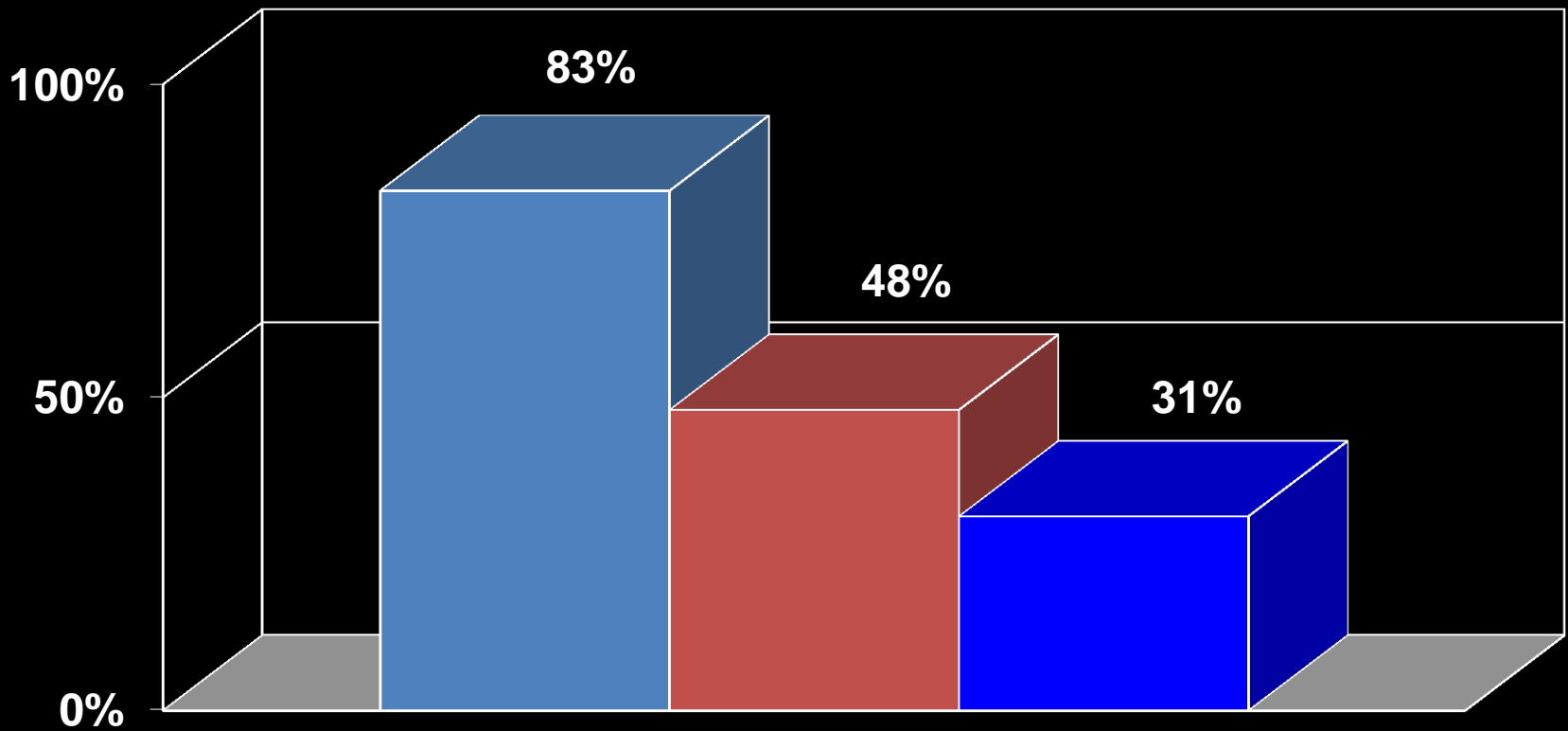
Addictivity



We can connect the dots – but
not without major problems...

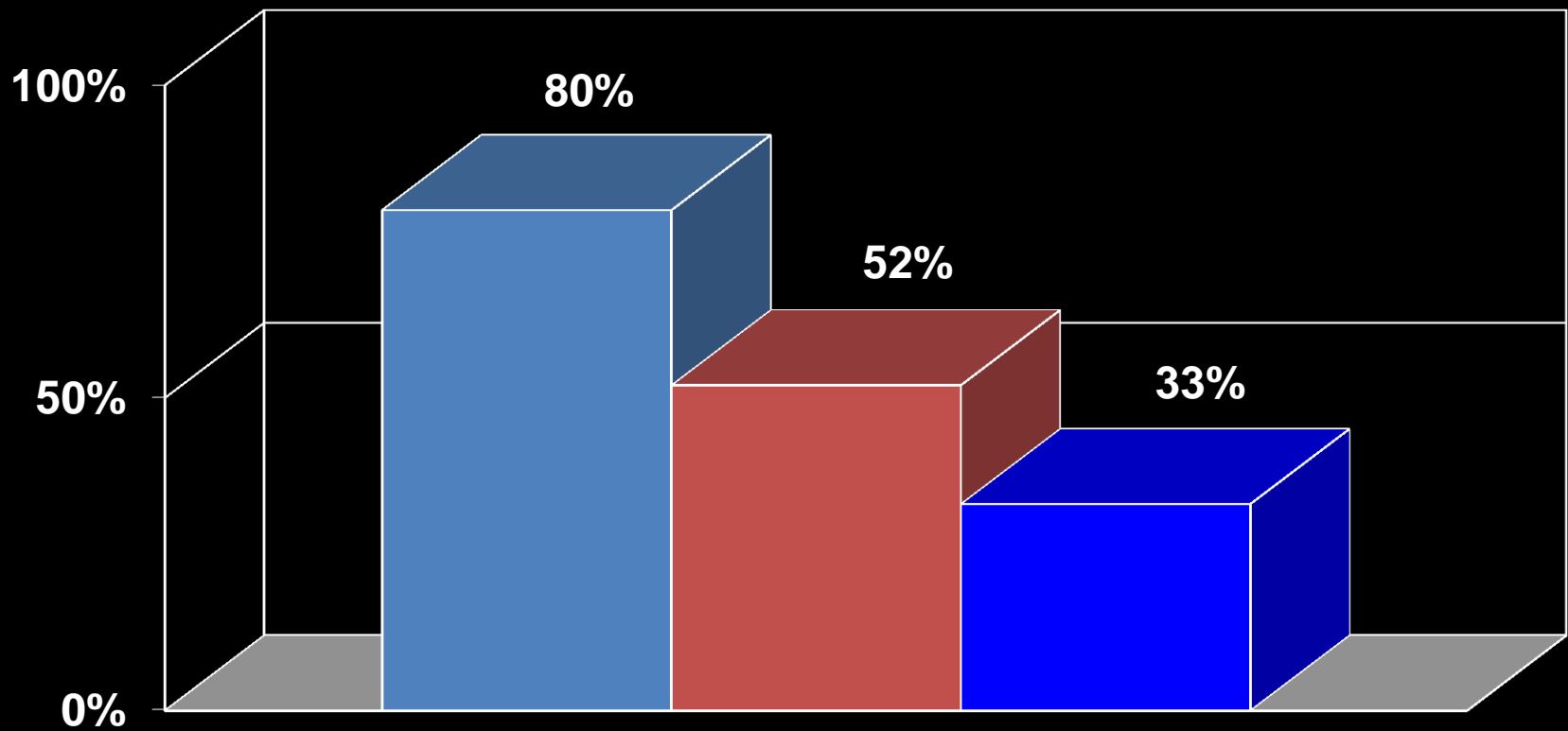
LIVING IN THE EXTREMES

Gambling (N=103)



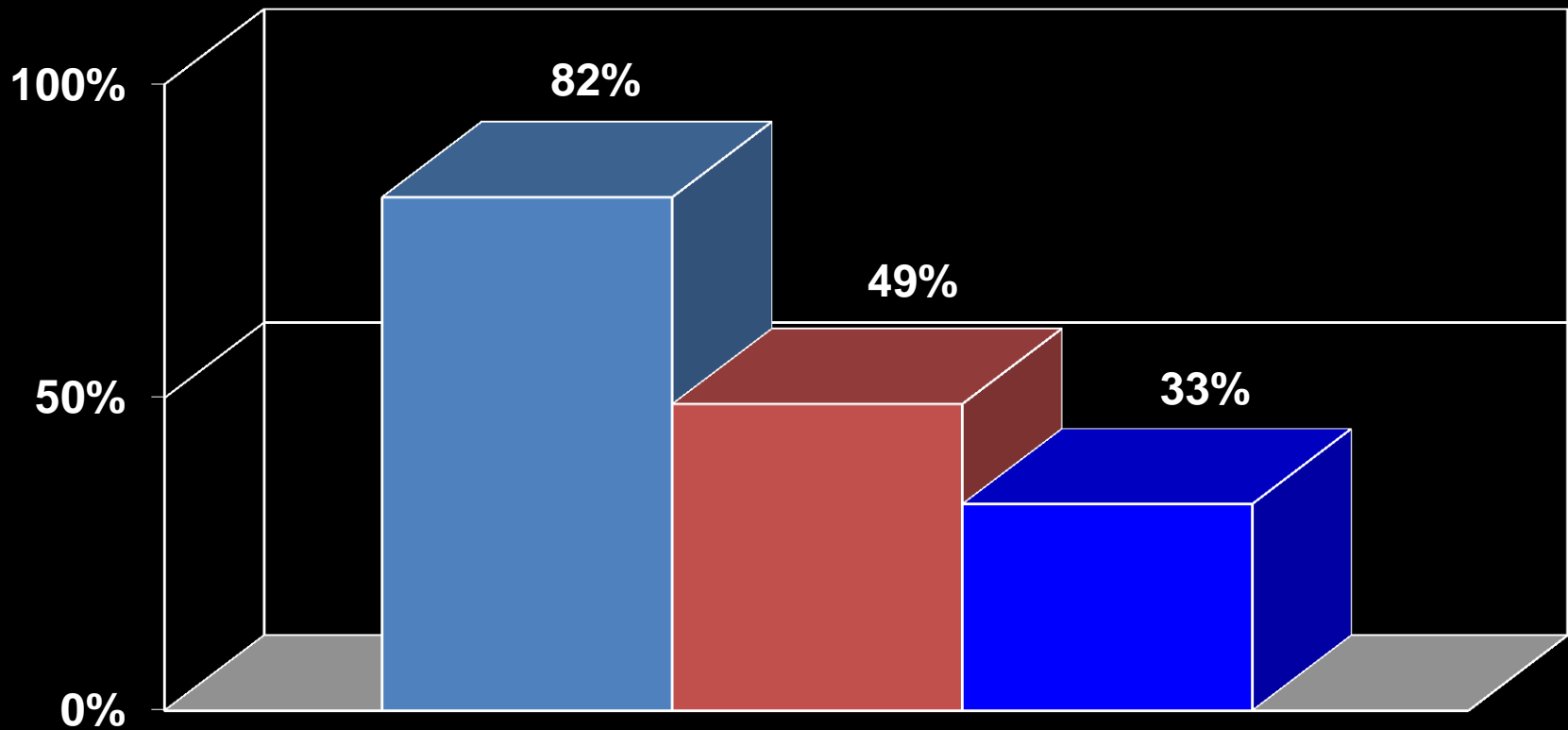
■ Sexual Addiction ■ Sexual Anorexia ■ Both

Alcoholism (N=740)



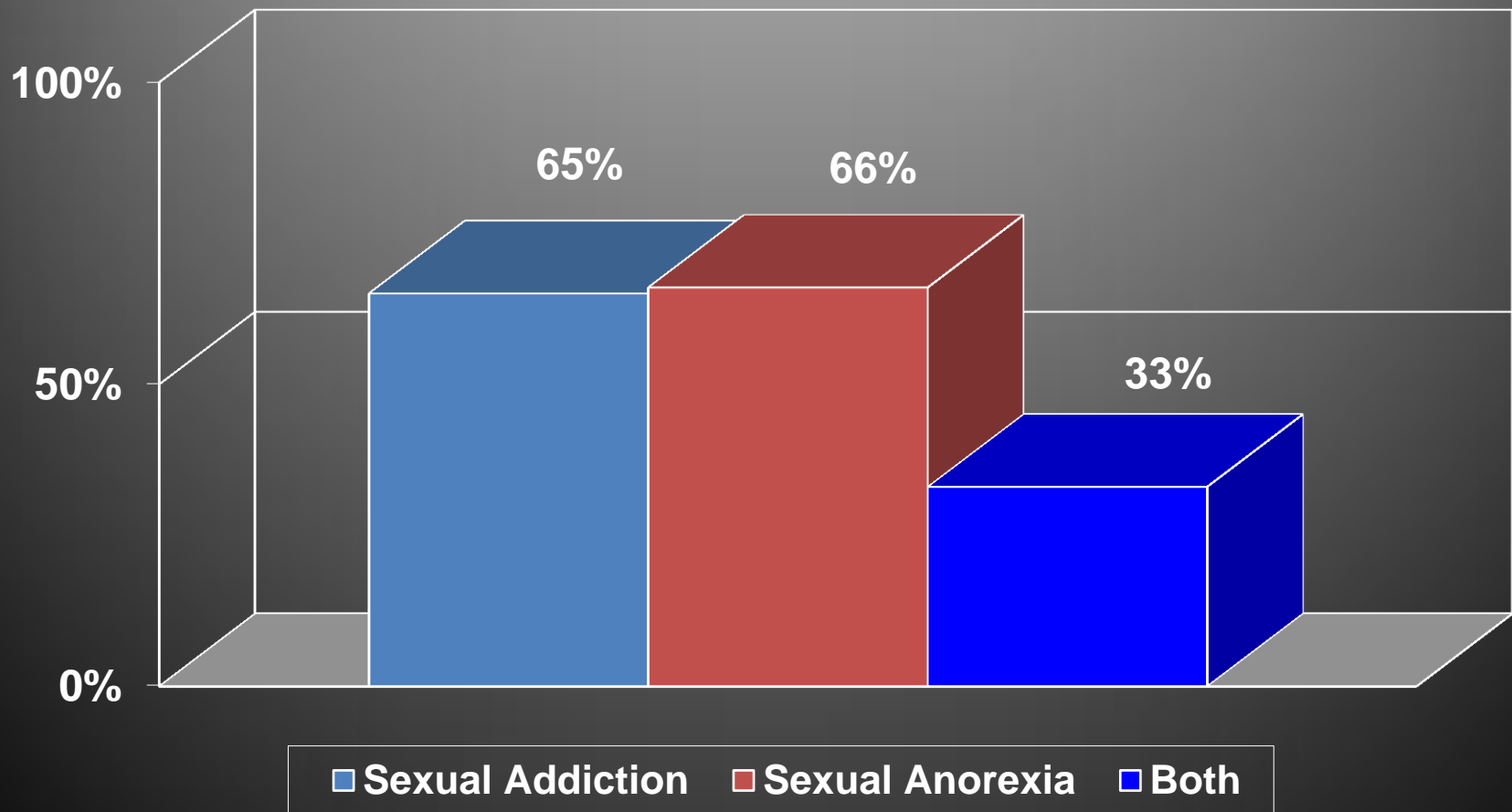
■ Sexual Addiction ■ Sexual Anorexia ■ Both

Substance Abuse (N=664)



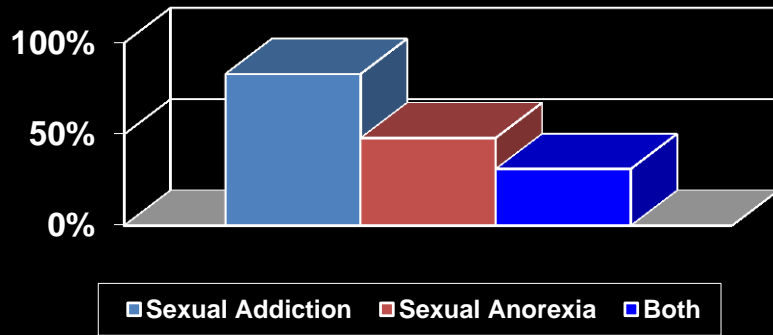
■ Sexual Addiction ■ Sexual Anorexia ■ Both

Eating Disorder (N=213)

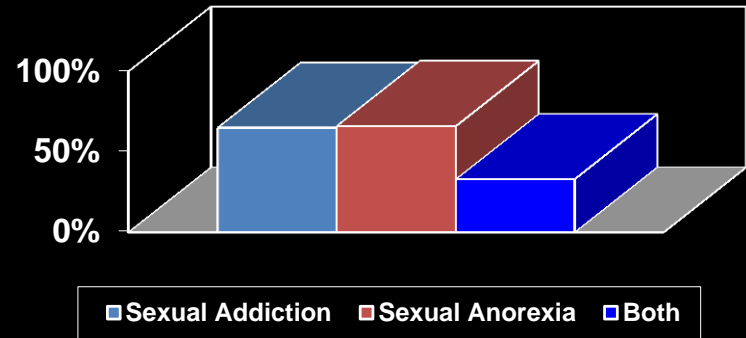


Addiction Interaction

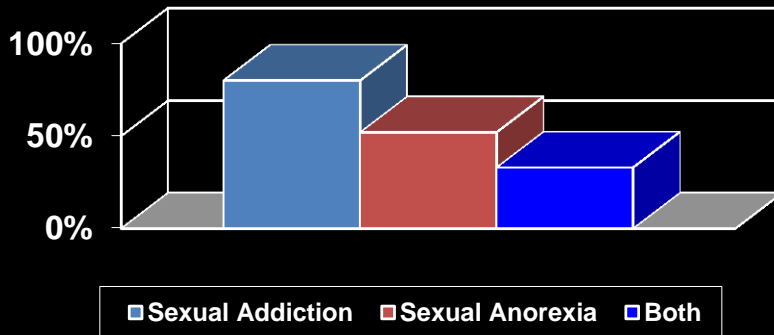
Gambling



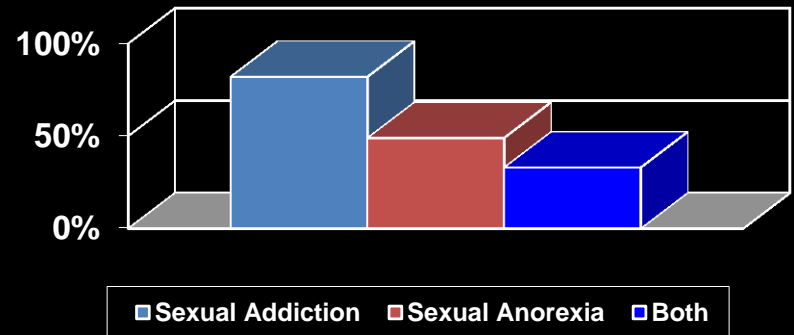
Eating Disorder



Alcoholism



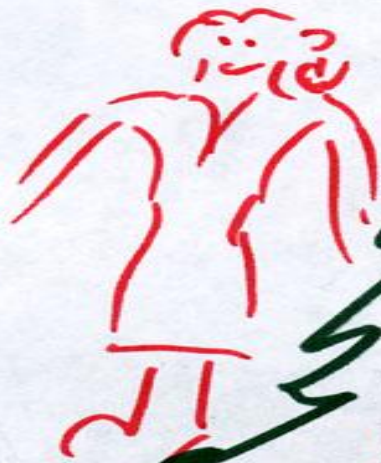
Substance Abuse



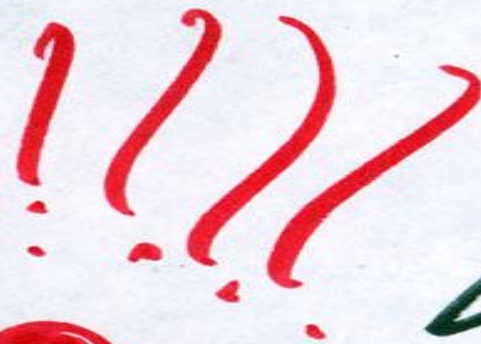
Compulsive dieting with sexual Addiction

~~Vegetables~~
Vegetables

~~Fruits~~
Fruits



Thin



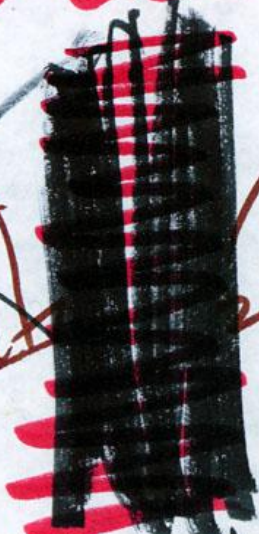
Rain

Fear

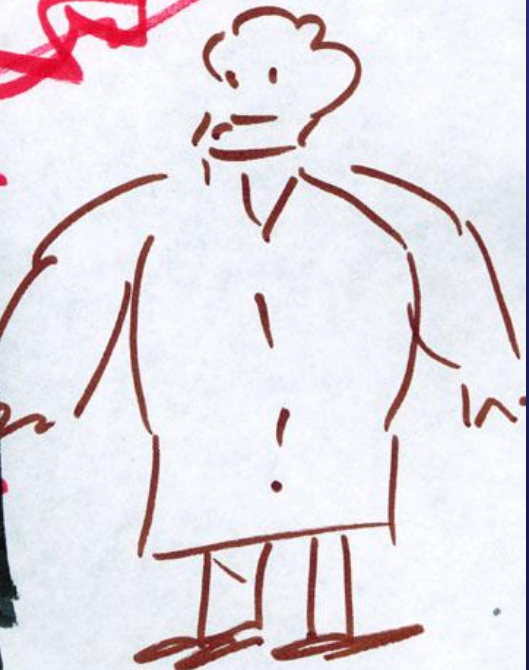
Compulsive overeating
with sexual avoidance



Men



Wall



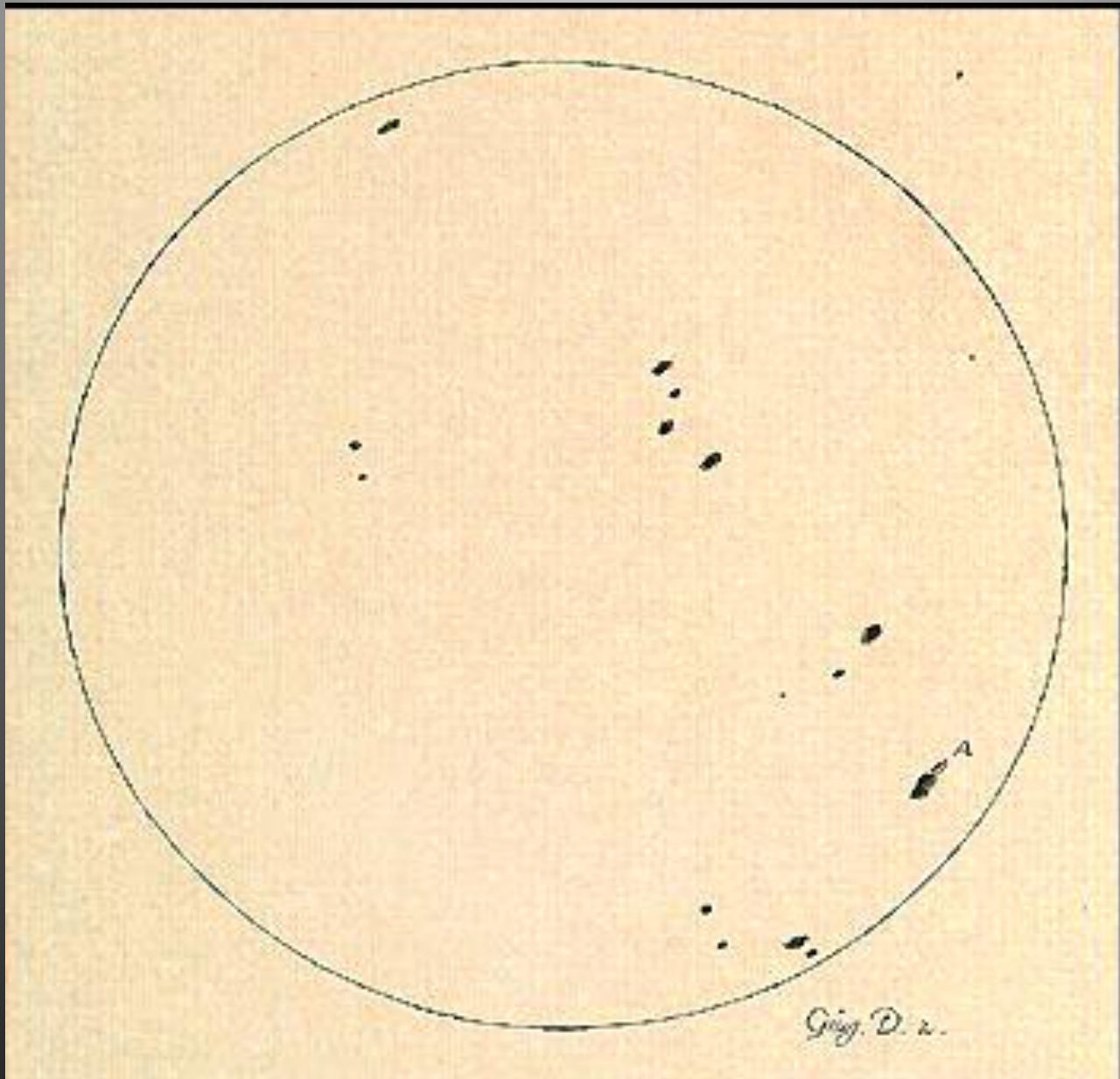
Mary B - yellow

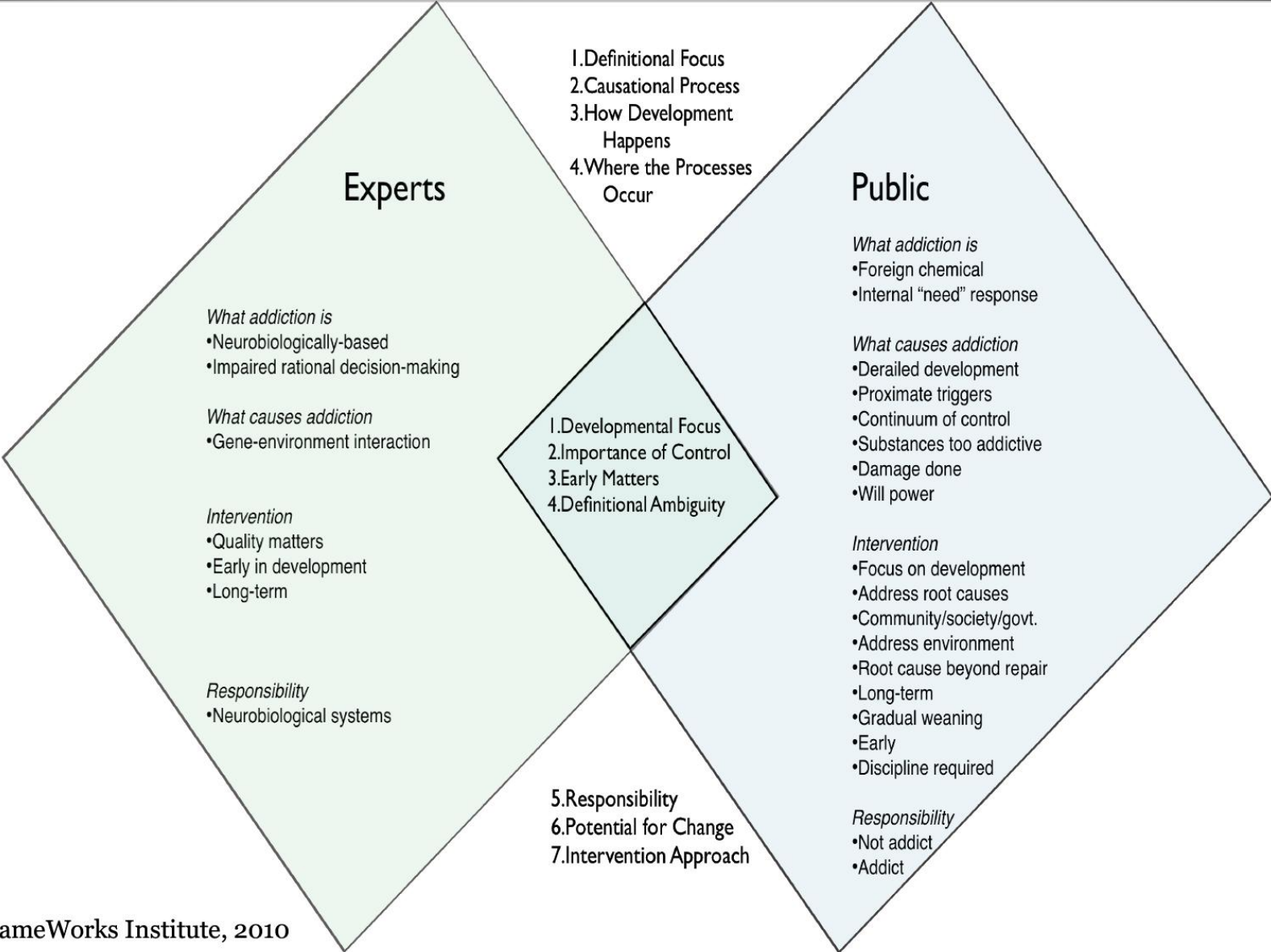
Pathologizing: Politics or Illness

- The answer is both
- Science in the service of prejudice
- Sexuality training – not knowing what you do not know
- The Wikenomics of research
- Reducing stigma
- Norliens Mission

Kurzweil and Grossman -- Transcend

- One of the downsides of our brains ... is its tendency to addictive behaviors.
- Other genetic mutations can also result in a general diminished ability for dopamine release from everyday gratifications, leading people with these mutations to turn to other substances and activities to raise dopamine levels to normal.







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For more on the Certified Sex Addiction Therapist (CSAT) trainings, the task-centered approach to addiction recovery, and assessment testing for sexual, work and financial issues go to:

www.IITAP.com

or email

Info@IITAP.com

or call

(480) 575-6853

