



The 13th Step: Thriving in Recovery

A Workshop to Promote Thriving in Recovery

Bob Reese, PhD

Presented at 3rd World Congress on Positive Psychology

Westin Bonaventure Hotel, Los Angeles CA

June 29, 2013

IPPA Workshop Abstract_2013

The 13th Step: Thriving in Recovery

The area of addiction, especially the process of recovery, has received little attention from the science of positive psychology. This workshop is aimed at anyone interested in better understanding the neuroscience regarding the process of recovery, the subjective happiness of those in recovery, and positive psychology interventions to promote thriving in recovery. Specifically, current neuroscientific research showing that addiction is a disease of the brain; that relapse is part of the recovery process; and how a brain in recovery can heal and grow positively due to neuroplasticity will be described. For a broader perspective, the *Subjective Happiness Scale* (SHS) (Lyubomirsky & Lepper, 1999) was embedded in a much larger survey conducted by the International Quit & Recovery Registry (IQRR). Amazon Mechanical Turk (AMT) crowdsourcing service was used to poll hundreds of participants in recovery for more than one year (Bickel, et al, in press). These findings - and their implications - will be discussed in the workshop. Finally the two topics – neuroscience and subjective happiness - will be brought together by exploring what positive psychology interventions enhance the neuroplasticity necessary to thrive in recovery.

Bob Reese, PhD

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VTC | Virginia Tech Carilion
Research Institute



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International Quit & Recovery Registry

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Help us help others.

Why do some people succeed in overcoming addictions while others relapse, at great cost to their health, their families, and even their lives?

The International Quit & Recovery Registry taps the insights and experiences of people who are in recovery from an addiction—whether to tobacco, alcohol, drugs, or a harmful behavior. Sponsored by the Virginia Tech Carilion Research Institute, the registry seeks to further scientific understanding of recovery and to inspire those struggling with addiction.

Become a Recovery Hero Now

In the end, some of your greatest pains
become your greatest strengths.

—Drew Barrymore, Actress and Recovery Hero

I'M A FRIEND OF
BILL W



NEXTSTEP
Magis Thinking

Workshop

13th Step: Thriving in Recovery

- **Addiction & Neuroscience**
- **International Quit & Recovery Registry (IQRR)**
 - **Subjective Happiness Scale Data**
 - Lyubomirsky & Lepper, 1999
- **Neuroscience & Subjective Happiness & Positive Psychology**
 - **Interventions**



Neuroscience:

Addiction is a Disease of the Brain

- **Addiction**

- “Addiction is the consumption of large quantities of drugs in an compulsive manner.”

- Nora Volkow, PhD, Director NIDA

- **Disease**

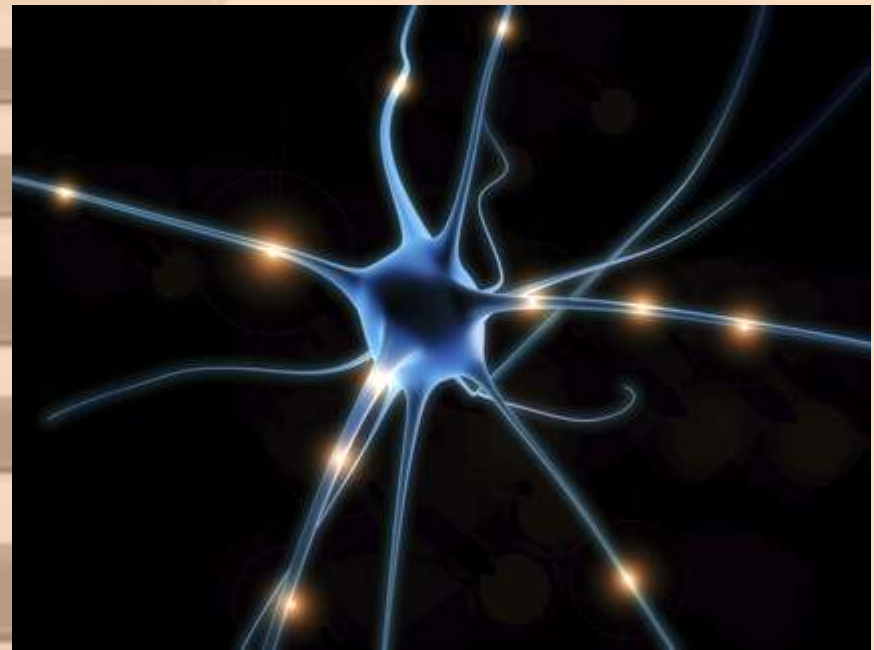
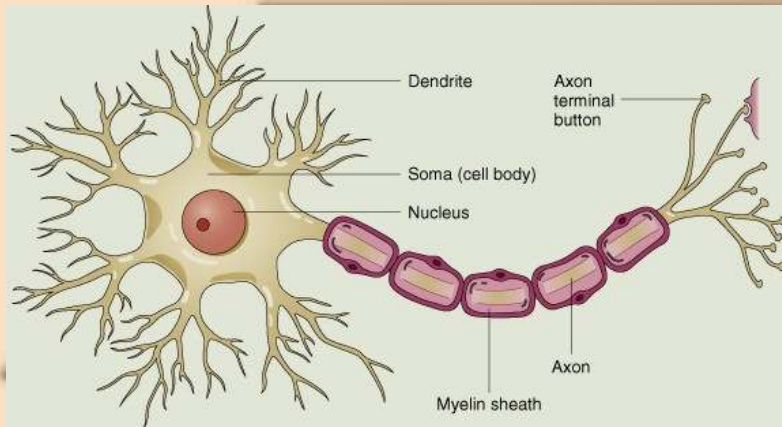
- A pathological condition of a body part, an organ, or a system resulting from various causes, such as infection, genetic defect, or environmental stress, and characterized by an identifiable group of signs or symptoms ... *resulting in morbidity*

- **Brain**

- Organ housed in cranium; the center of thought, understanding, etc.

Neuroscience

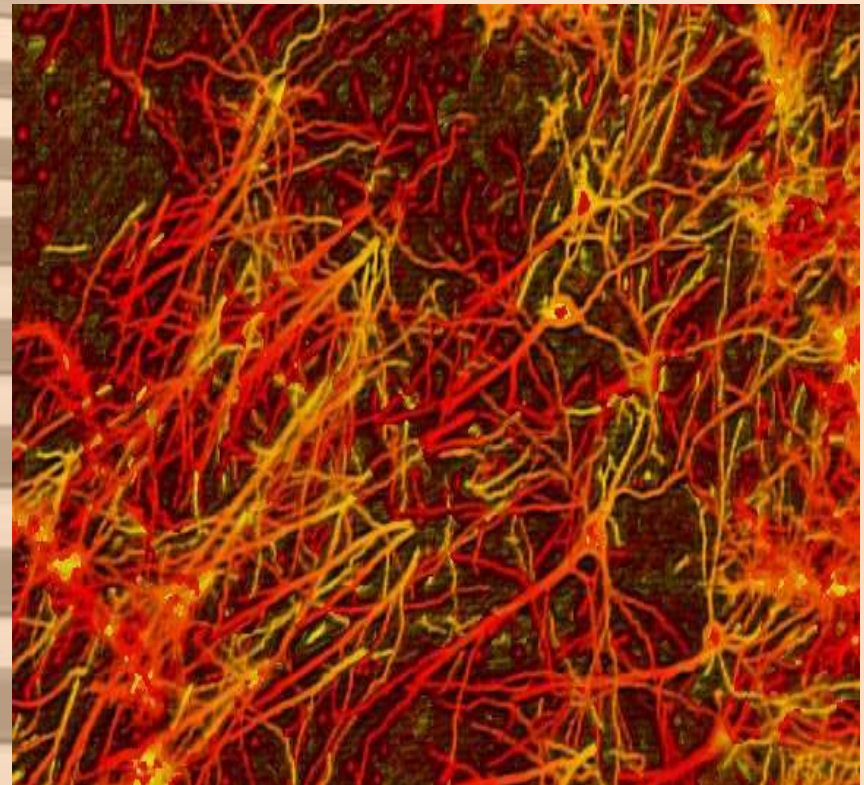
- The human brain has 100 *billion* neurons
 - It grows thousands of new cells daily



Neuroscience



- These 100 billion neurons are capable of making **40,000,000,000,000,000** (Forty quadrillion connections)



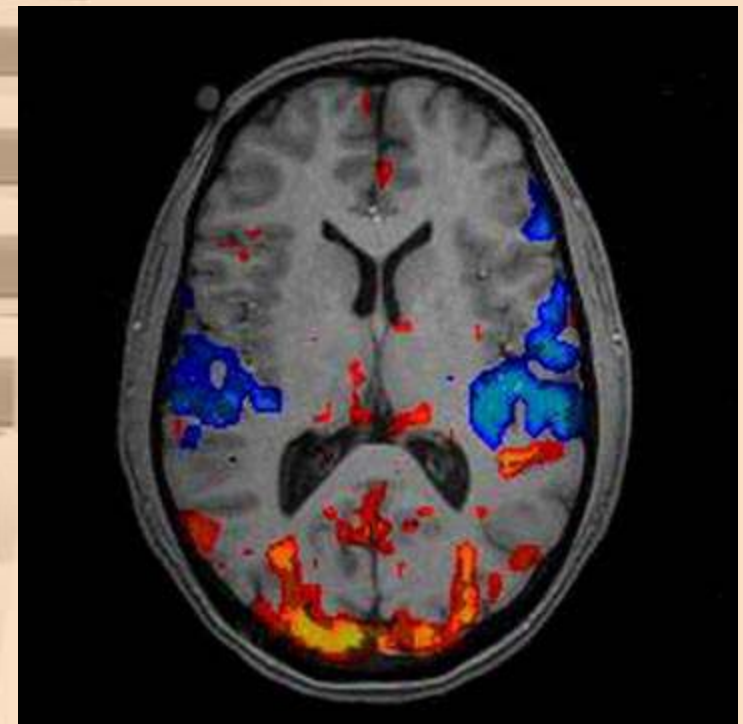
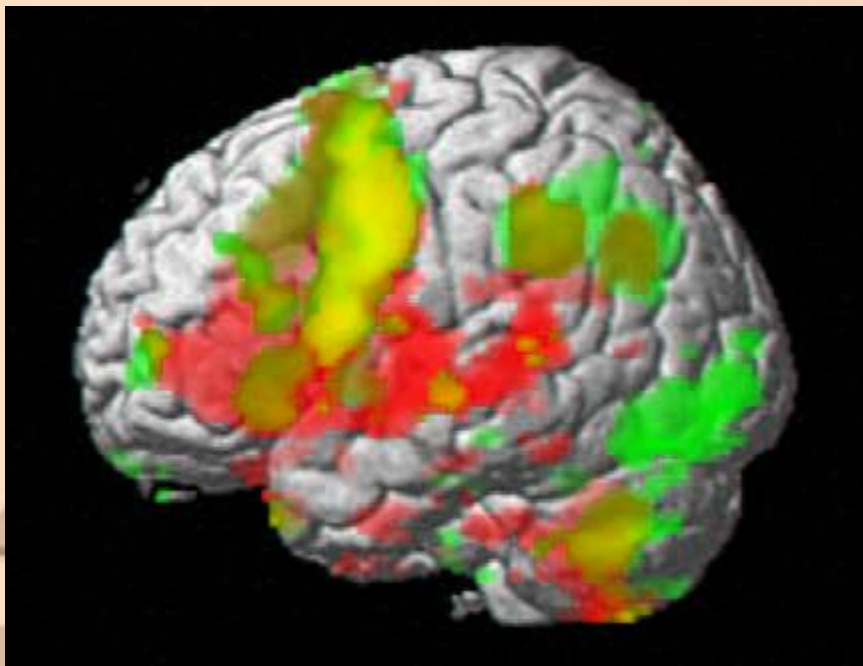
Ratey, J. (2002). *Users Guide to the Brain*

Neuroscience

FMRI



- Technology now allows us to look at these connections working

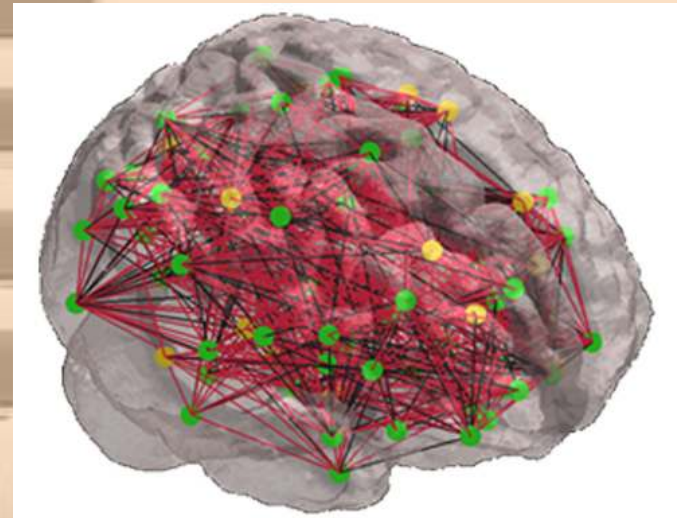
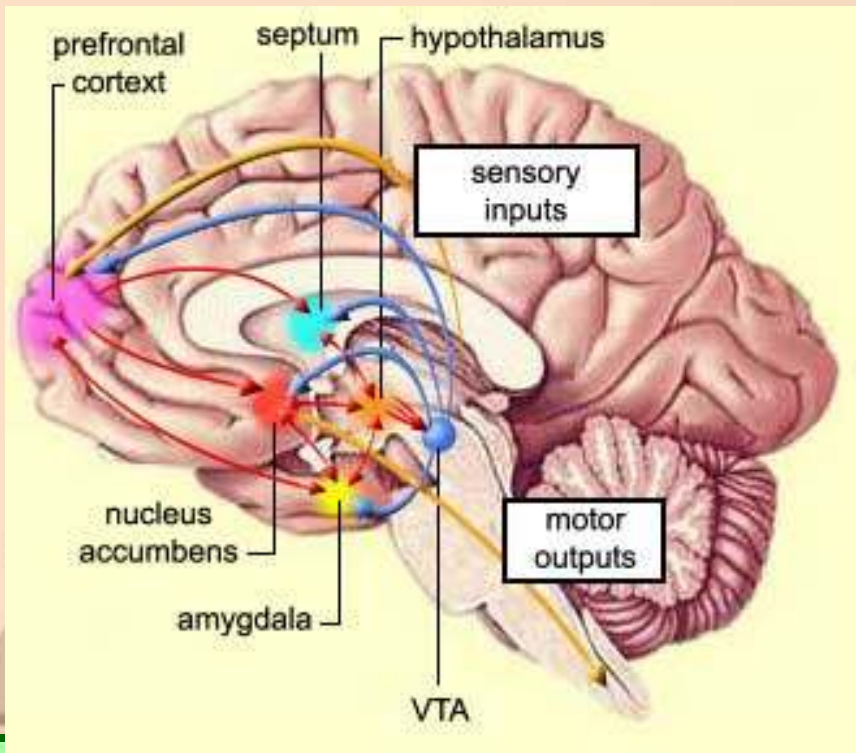


Neuroscience & Addiction

Primary Areas of Concern

Limbic System

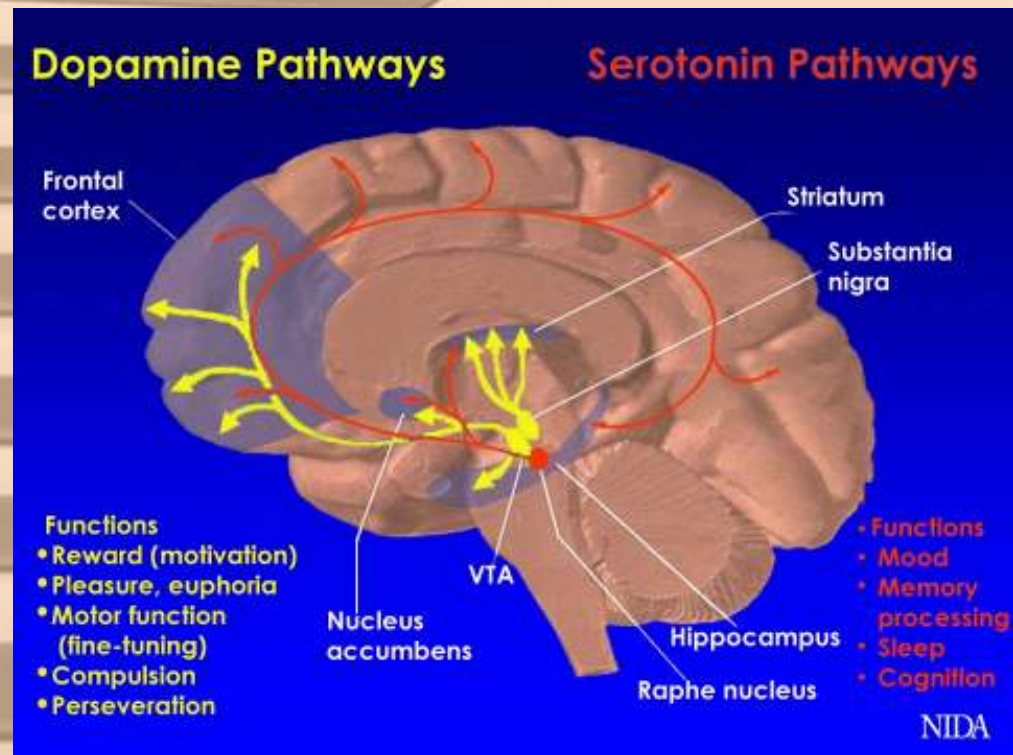
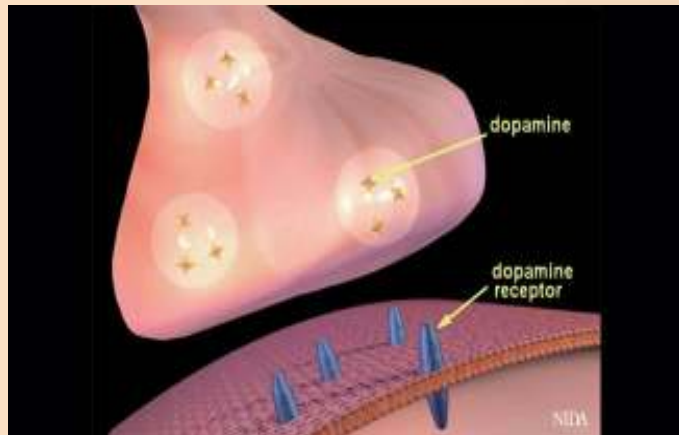
Frontal Cortex ↔ – Amygdala
Decision Making ↔ • Emotion
– Nucleus Accumbens
• Pleasure



Neuroscience & Addiction

Dopamine: Pleasure & Emotion

- **ALL Drugs Activate Dopamine**
 - Legal or Illegal
 - Alcohol, Marijuana, Cocaine, Crystal Meth, etc.



Neuroscience & Addiction

Role of Genetics

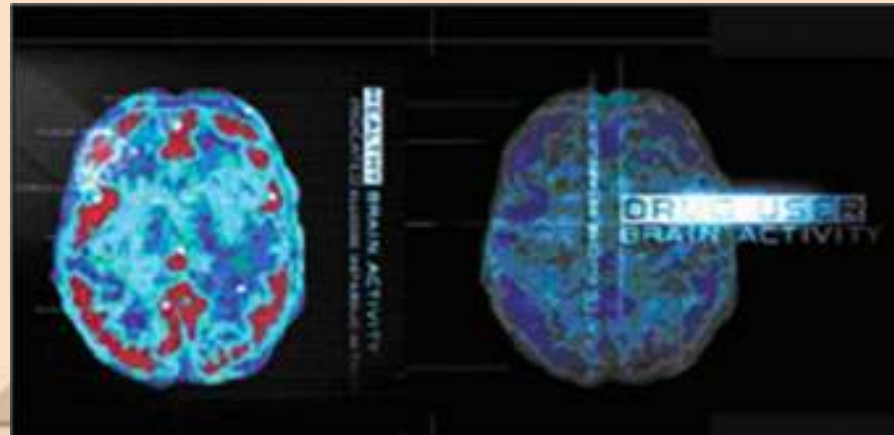
- **Genetics impact likelihood of addiction**
 - Only 10% of people who take drugs become addicted
 - Genes = 50% risk of addictions at best

- **Not 1:1**



ADDICTION:

A Brain Disease



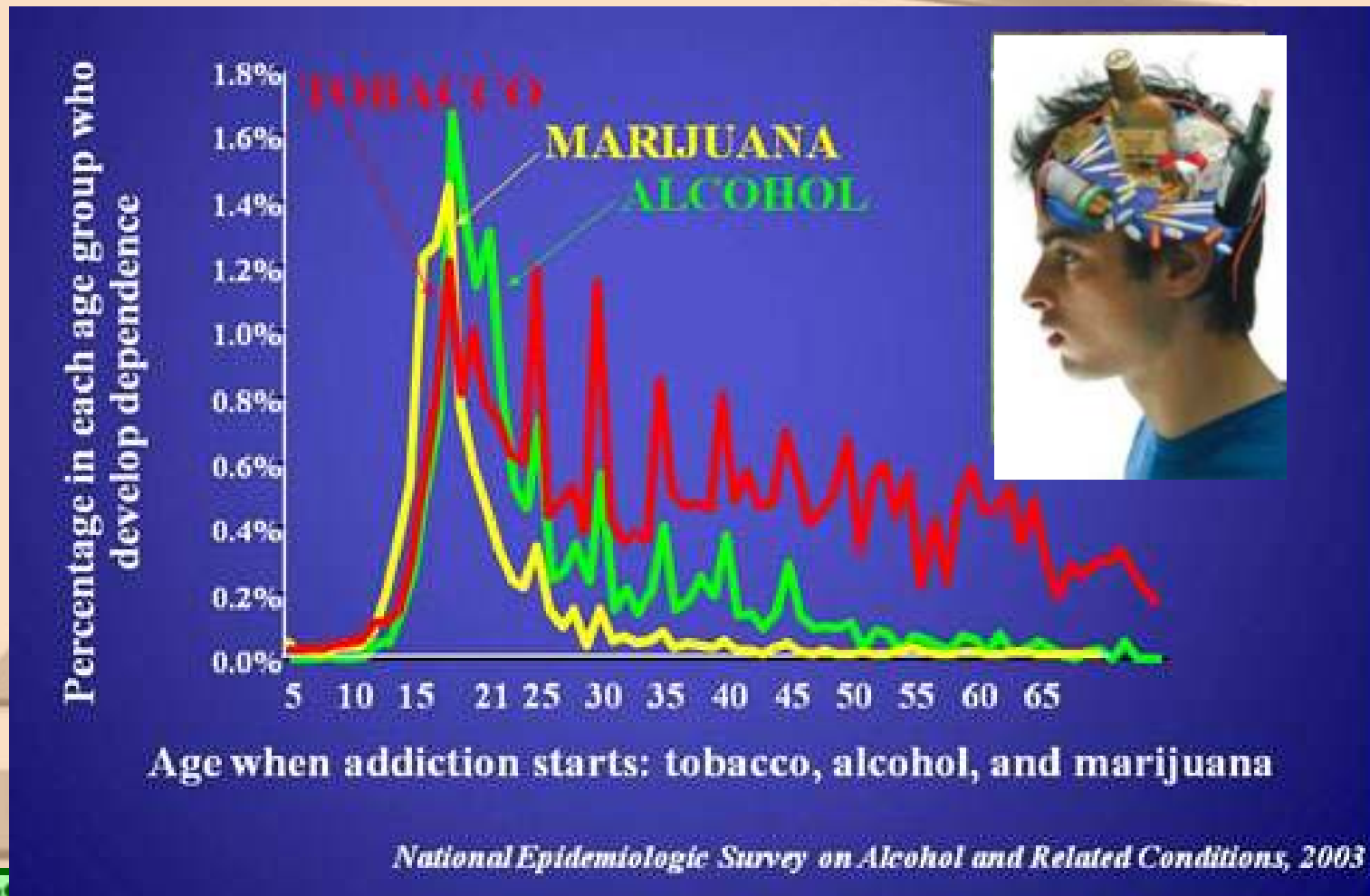
- **Characterized by:**
 - Compulsive Behavior
 - Continued use of drugs despite negative consequences
 - Persistent changes in the brain's structure & function

• NIH / NIDA ¹²

ADDICTION: A Brain Disease

A Developmental Disease

It Starts in Adolescence & Childhood



ADDICTION: A Brain Disease

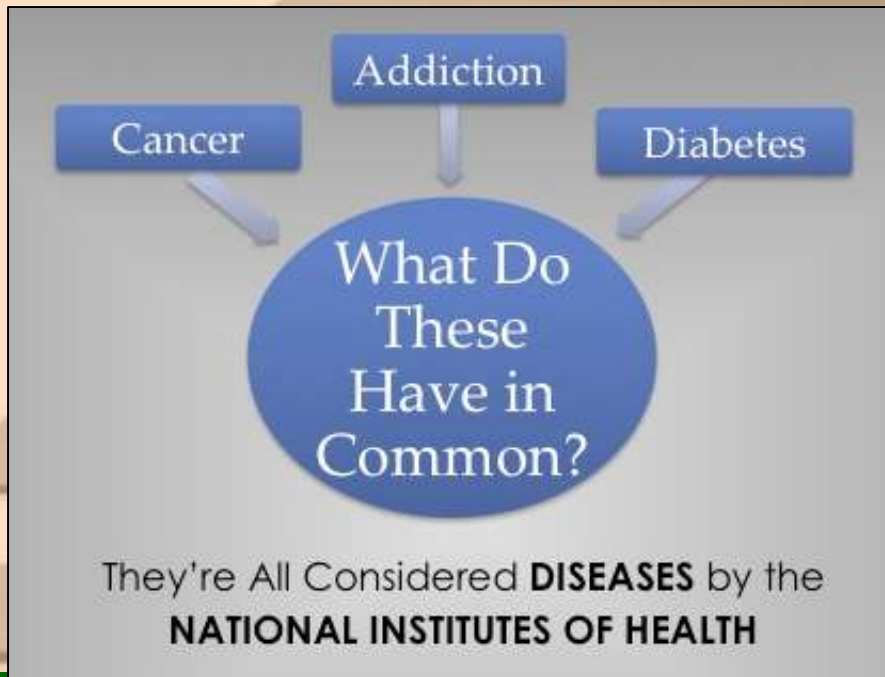
A Developmental Disease

- **Brain does not mature until age 24-26**
 - Frontal Cortex: Decision Making
 - **Black & White thinking**
- **Childhood & Adolescence at greatest risk for addiction**
 - Greater brain vulnerability
 - Early exposure: ↑ to be addicted & longer lasting
 - **Early addiction: longer lasting / harder to recover**
- **Experimentation w/ drugs & alcohol begins w/ teens**
 - 18-25 yrs highest abuse & dependence

Neuroscience:

Addiction is a Disease of the Brain

- “Addiction should be understood as a *chronic recurring* illness that requires treatment.”

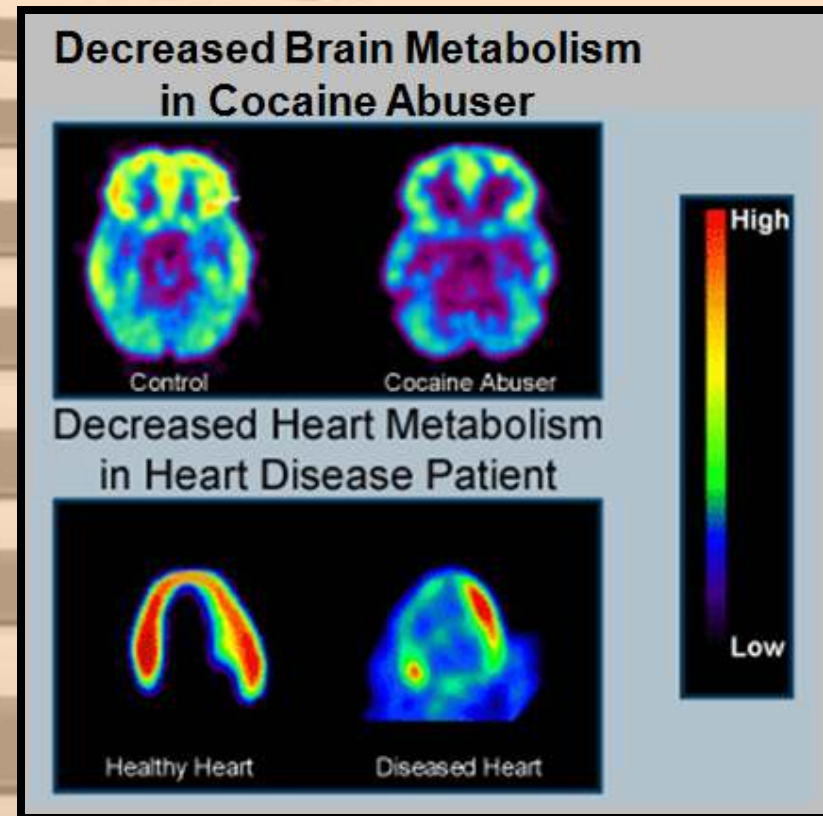


Alan Leshner, MD
former head of the NIDA at NIH
Addiction is a Brain Disease

ADDICTION: A Brain Disease

- Addiction affects tissue function just like other diseases

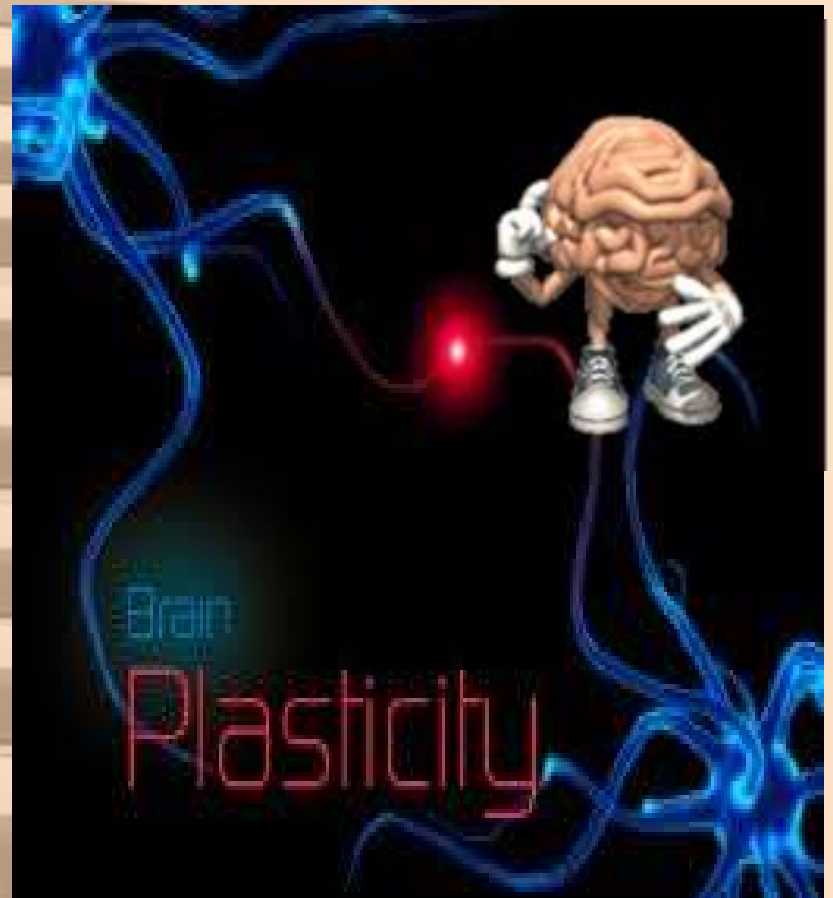
Dopamine
Receptors
significantly
reduced in
addiction



Neuroplasticity



- The ability of the brain to rewire and remap itself.
- A brain in recovery can heal and grow positively due to **neuroplasticity**

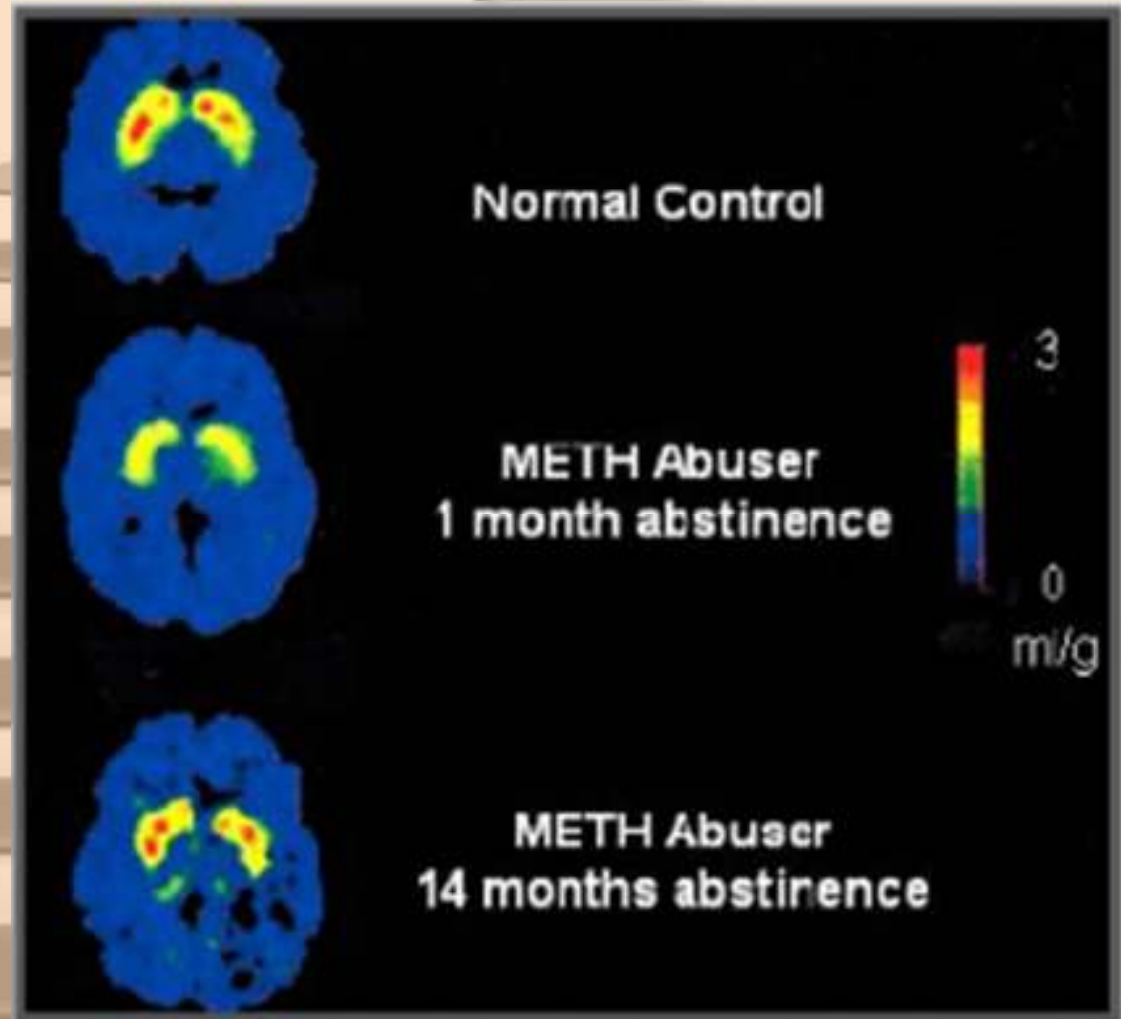


ADDICTION

Can Be Treated



- Partial Recovery of Brain Dopamine Transporters in Methamphetamine (METH) Abuser After Protracted Abstinence
 - Volkow et al, 2001

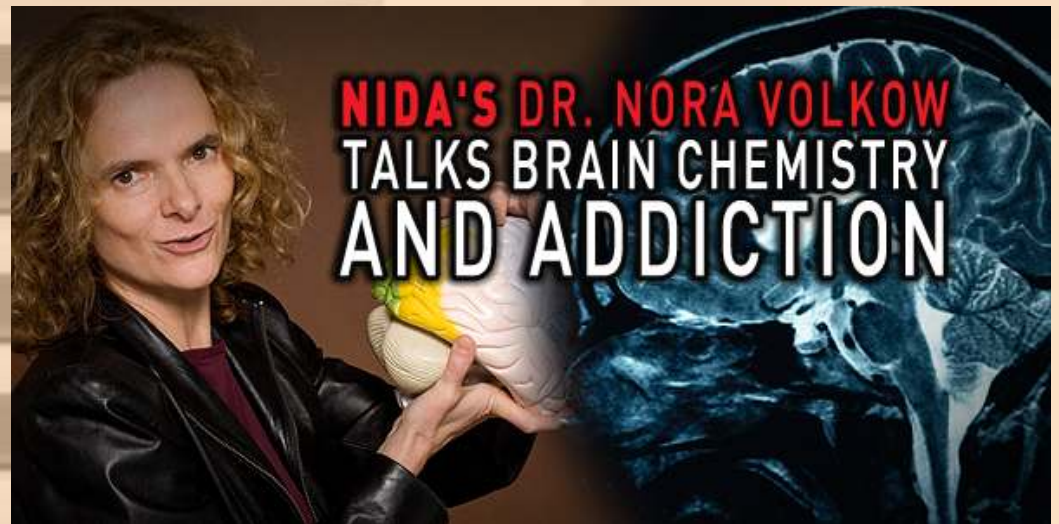


Addiction is a Chronic Disease

Treatment

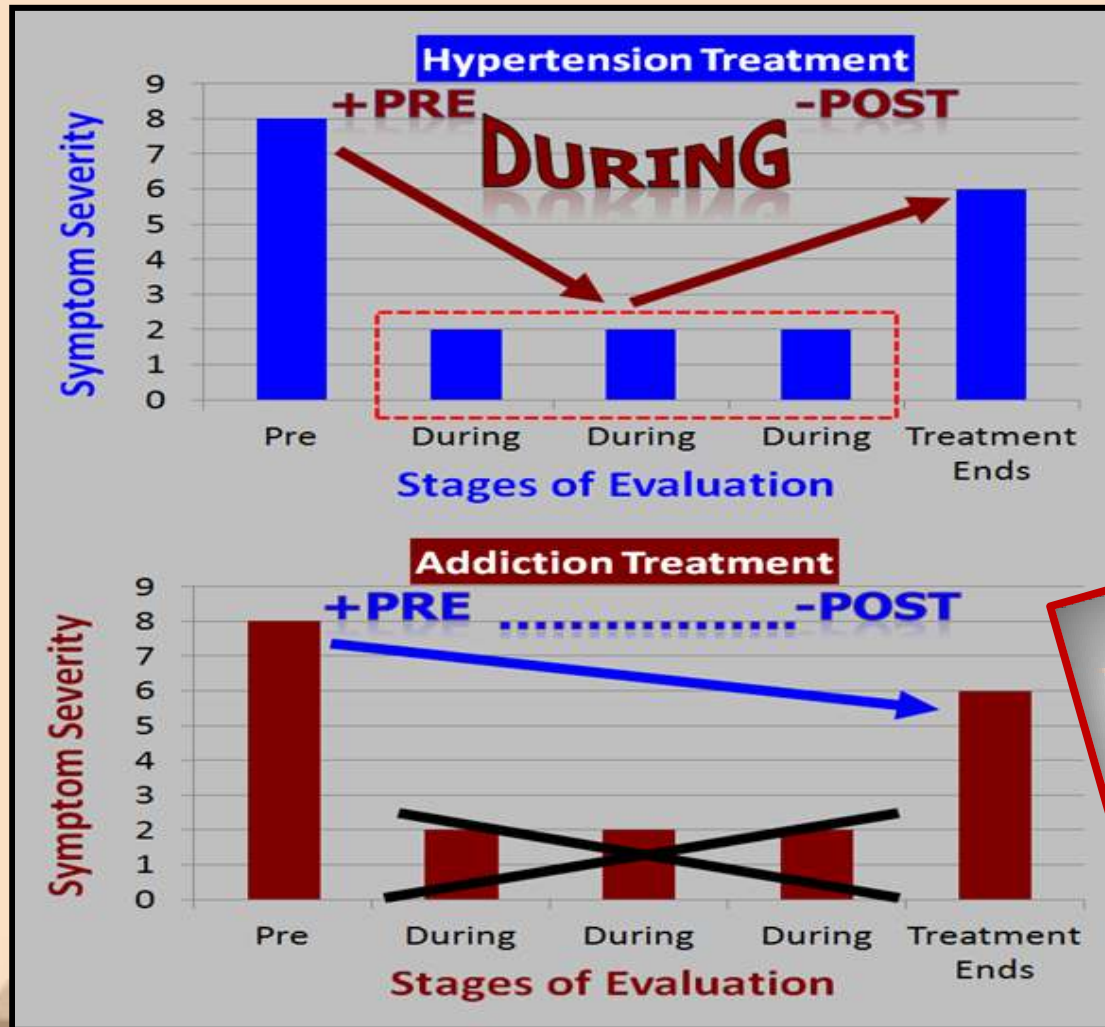
- “It must be understood that relapse is part of the recovery process.”

Chronic
Recurring

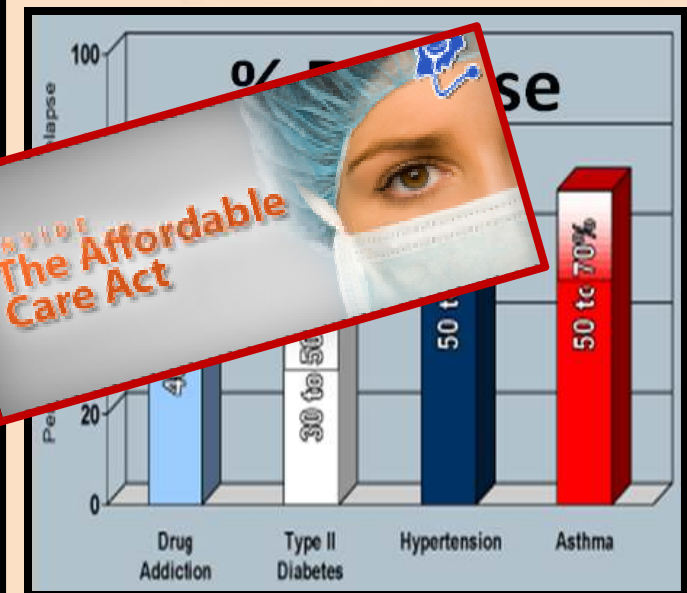


Addiction is a Chronic Disease

Double Standard in Treatment



Just like
Hypertension
Addiction is a
CHRONIC Disease
that requires
Continual Care

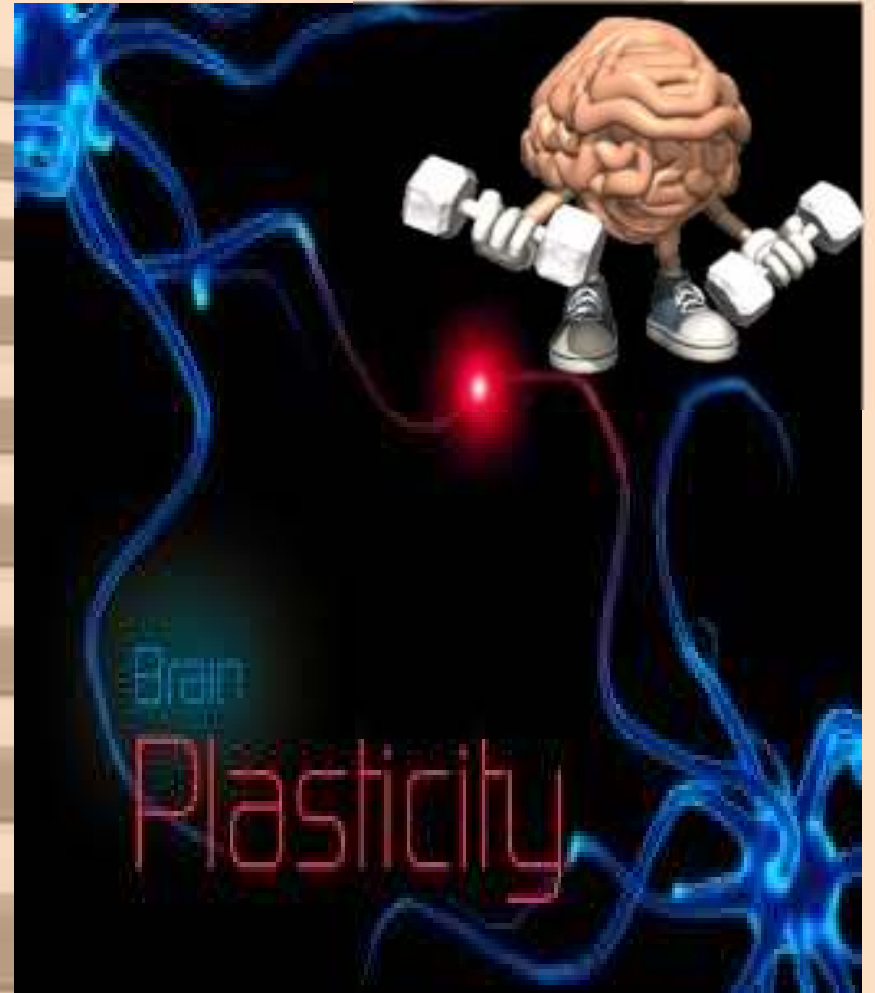


Neuroplasticity



The ability of the brain to rewire and remap itself.

- Your *Brain* can change your *Mind*
 - *Caffeine*
- Your *Mind* can change your *Brain*



Neuroplasticity



- As your **Mind** changes, your **Brain** changes
 - This produces both temporary & lasting changes in your brain
- **Lasting Changes:**
 - Increased blood/nutrient flow to active regions
 - Altered Epigenetics (**gene expression**)
 - “Neurons that fire together wire together.”
 - Increasing excitability of active neurons
 - Strengthening existing synapses
 - Building new synapses; thickening cortex
 - Neuronal “pruning” - “use it or lose it”



Neuroplasticity



You can use your *Mind*
To change your *Brain*
To change your *Mind* for the better!



Jeffery Schwartz, MD



This is Self-Directed Neuroplasticity

(Remember this when we get to Interventions)

International Quit & Recovery Registry

DEDICATED TO LEARNING FROM SUCCESS IN ADDICTION RECOVERY

<https://quitandrecovery.org/>

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Help us help others.

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[Become a Recovery Hero Now >>](#)



In the end, some of your greatest pains become your greatest strengths.

—Drew Barrymore, Actress and Recovery Hero

success stories

“Hi. My name is Bob and I’m an alcoholic. As part of my journey of recovery I’ve been saying these words for more than 20 years now...”

[Read more](#)

“I thought smoking was cool until I wanted to start a family. Walking around town and seeing those moms blowing smoke in their babies’ faces...”

[Read more](#)

“I got into drugs, tobacco, you name it, when I was 13. I started off sniffing gasoline out of a lawnmower, then moved on to beer, wine, and marijuana...”

[Read more](#)



Mikhail Koffarnus, PhD



Anne Carter



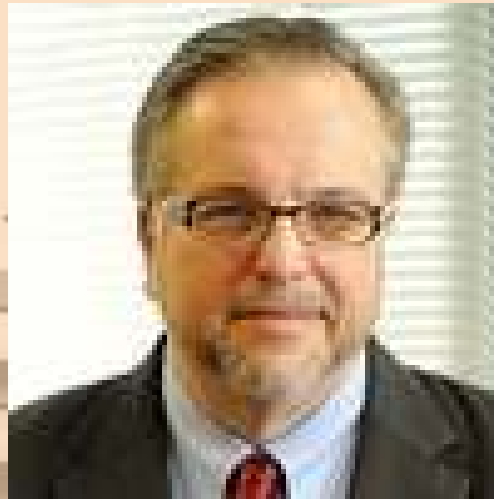
George Wilson, PhD



Bob Reese, PhD



IQRR Research Team



Warren Bickel, PhD
Team Leader



Chris Franck,
PhD



David Jarmolowicz,
PhD



Terry Mueller,
PhD



Kirstin Gatchalian



Harshad Hegde



Paula Byron



Patsy Marshall

Aim of IQRR Data

- Aim 1: Conduct studies from data gathered from the Registry
- Aim 2: Cross-Sectional Studies
 - Decision Making
 - Focus on Neurocognitive
 - Addiction Treatment History
 - Dysfunctions associated w/ addictions
 - Status of Recovery



IQRR

Aim 3: Longitudinal Studies

- Conduct multiple cohort study of recovery of neurobehavioral decisional processes & other clinically relevant information in addiction.



Methodology: Survey

- **IQRR Survey**

- Oct 2011

- Online

- 1+ yr Recovery

- Initially

- > 1 yr in Recovery

- 150+ questions

- 3000+ respondents

- 35+ Countries



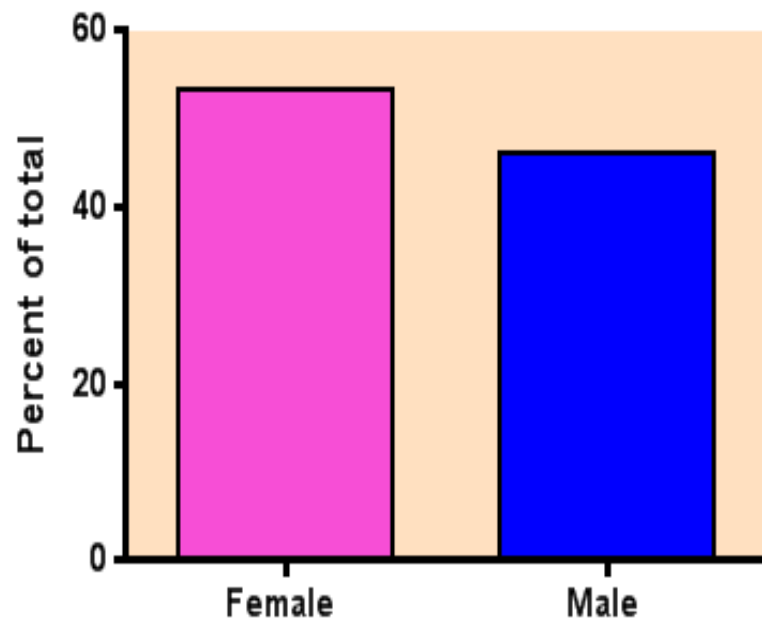
WE WANT MORE!

IQRR Survey

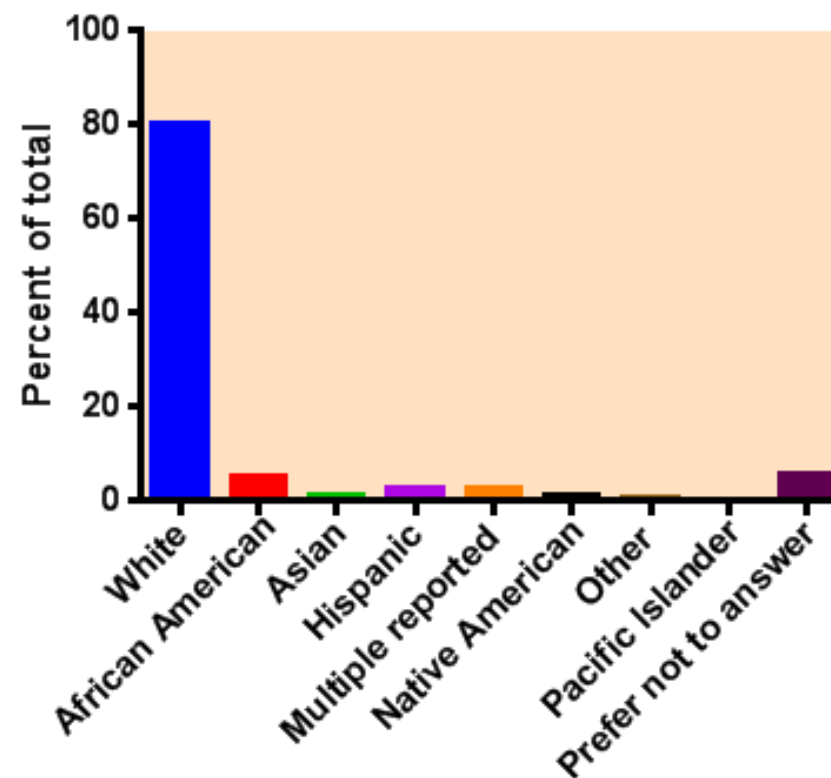
As of May 1, 2013



Gender_IQRR
N = 3063



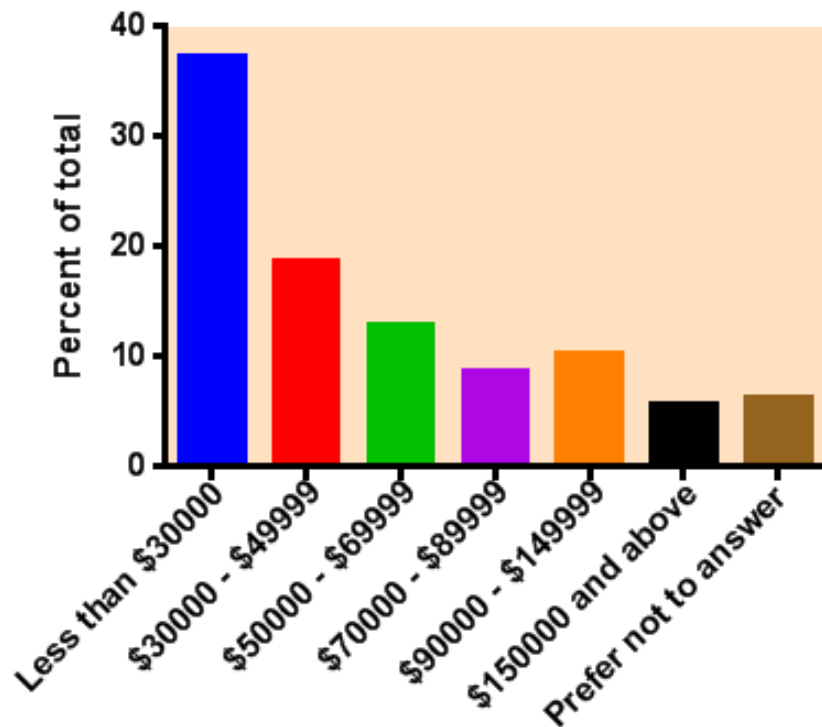
Ethnicity_IQRR
N=3063



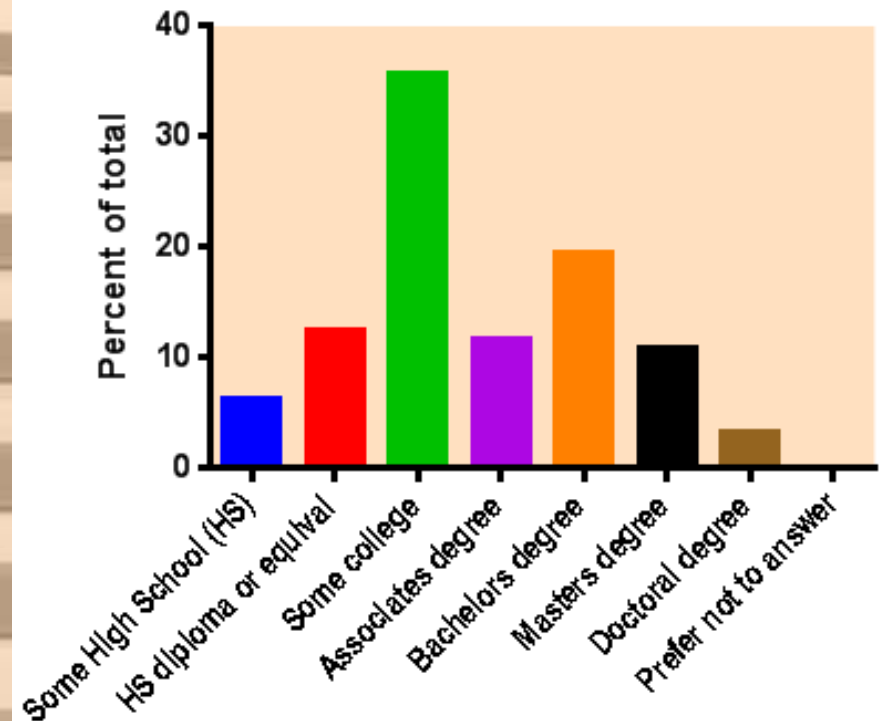
IQRR Survey



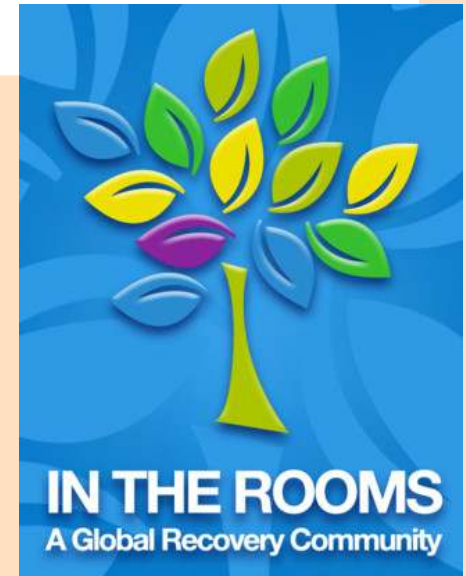
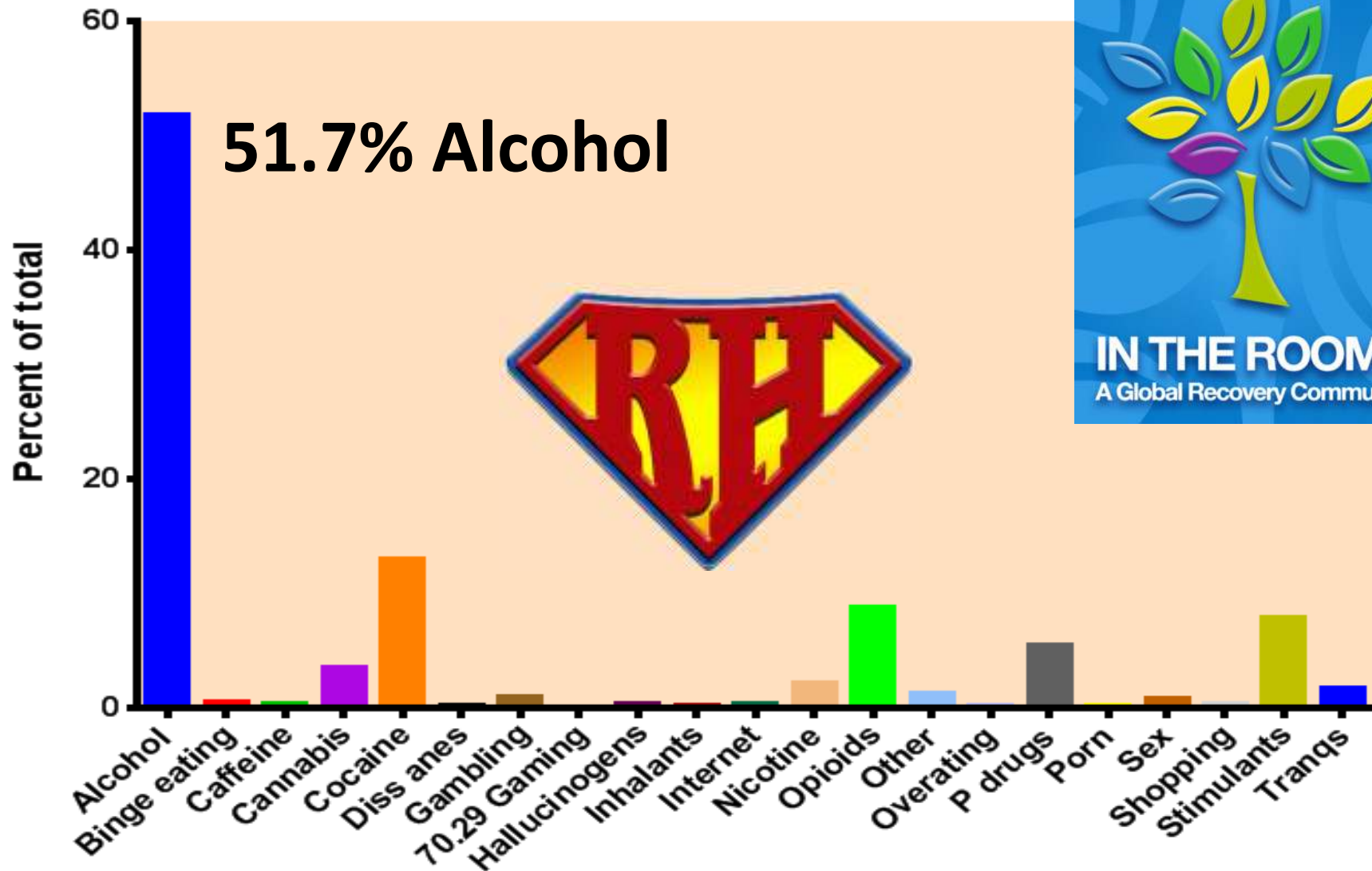
Income_IQRR
N=3063



Education_IQRR
N = 3063



Primary Addiction_IQRR
N=3063

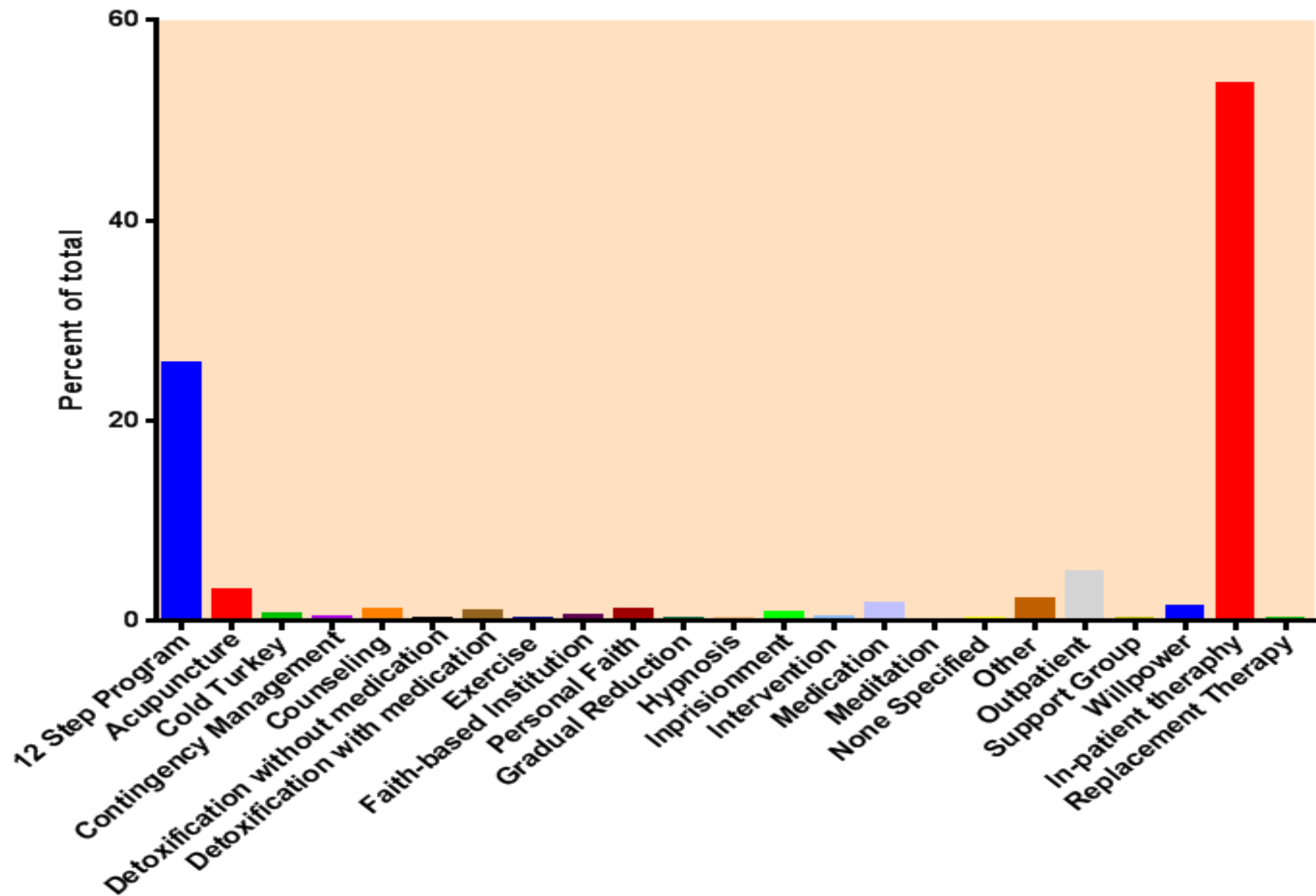


N = 2951



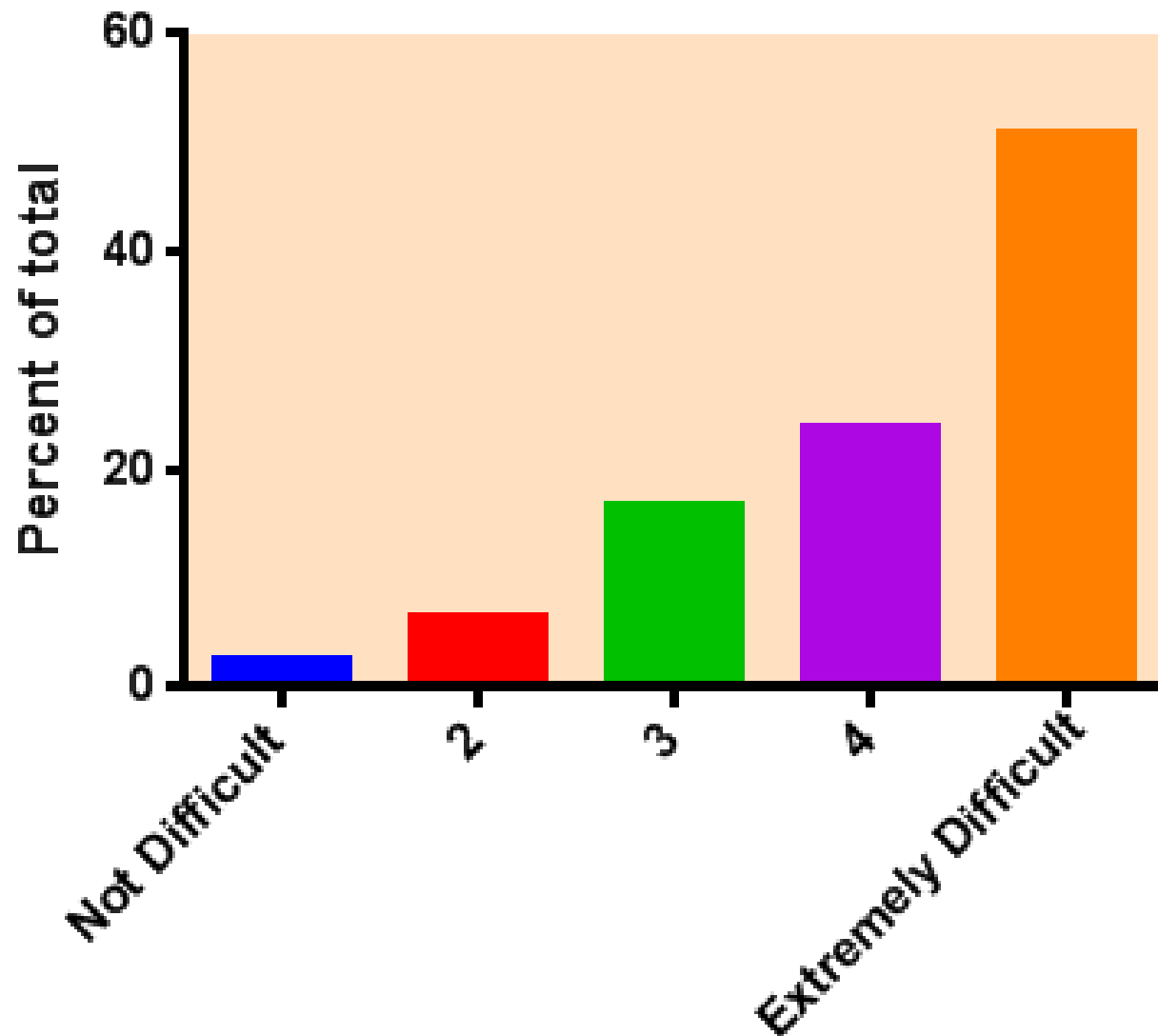
Most Effective Therapy_IQRR

N=2536



Primary Addiction

Level of Difficulty to Quit_IQRR
N = 1171





HITS



A large crowd of people in a stadium, with the word 'CROWDSOURCING' overlaid in a purple banner. The crowd is dense and diverse, with many people wearing blue and yellow clothing. The banner is positioned in the center of the image, with the word 'CROWDSOURCING' in white, bold, uppercase letters.



mTurk Survey



Amazon Mechanical Turk - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Amazon Mechanical Turk

mturk.com https://www.mturk.com/mturk/searchbar?selectedSearchType=hitgroups&searchWords=arrc&minReward=0.008> amazon mturk

Most Visited Getting Started Jefferson College of He... Carilion Login Page Student Eval report JCHS Outlook Web App Old Bb Suite Self Reese, Robert C. (Bo

amazonmechanicalturk Artificial Intelligence

Your Account HITs Qualifications 298,780 HITs available now

All HITs | HITs Available To You | HITs Assigned To You

Find HITs containing arrc that pay at least \$ 0.00 for which you are qualified require Master Qualification GO

HITs containing 'arrc'

1-2 of 2 Results

Sort by: HIT Creation Date (newest first) GO Show all details Hide all details

Health Survey	View a HIT in this group	
Requester: ARRC	HIT Expiration Date: Mar 5, 2014 (39 weeks 6 days)	Reward: \$2.50
	Time Allotted: 5 hours	HITs Available: 1
Payment for Obesity Study	View a HIT in this group	
Requester: ARRC	HIT Expiration Date: Jul 21, 2013 (7 weeks 3 days)	Reward: \$5.00
	Time Allotted: 60 minutes	HITs Available: 1

Subjective Happiness Scale (SHS) Lyubomirsky & Lepper, 1999



1. In general I consider myself

1	2	3	4	5	6	7
Not a very happy person						A very happy person

Happy - Me

2. Compared to most of my peers, I consider myself:

1	2	3	4	5	6	7
Less happy						More happy

Happy vs Peers

Subjective Happiness Scale

(SHS) Lyubomirsky & Lepper, 1999

3. Some people are generally happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1	2	3	4	5	6	7
Not at all						A great deal

Optimistic

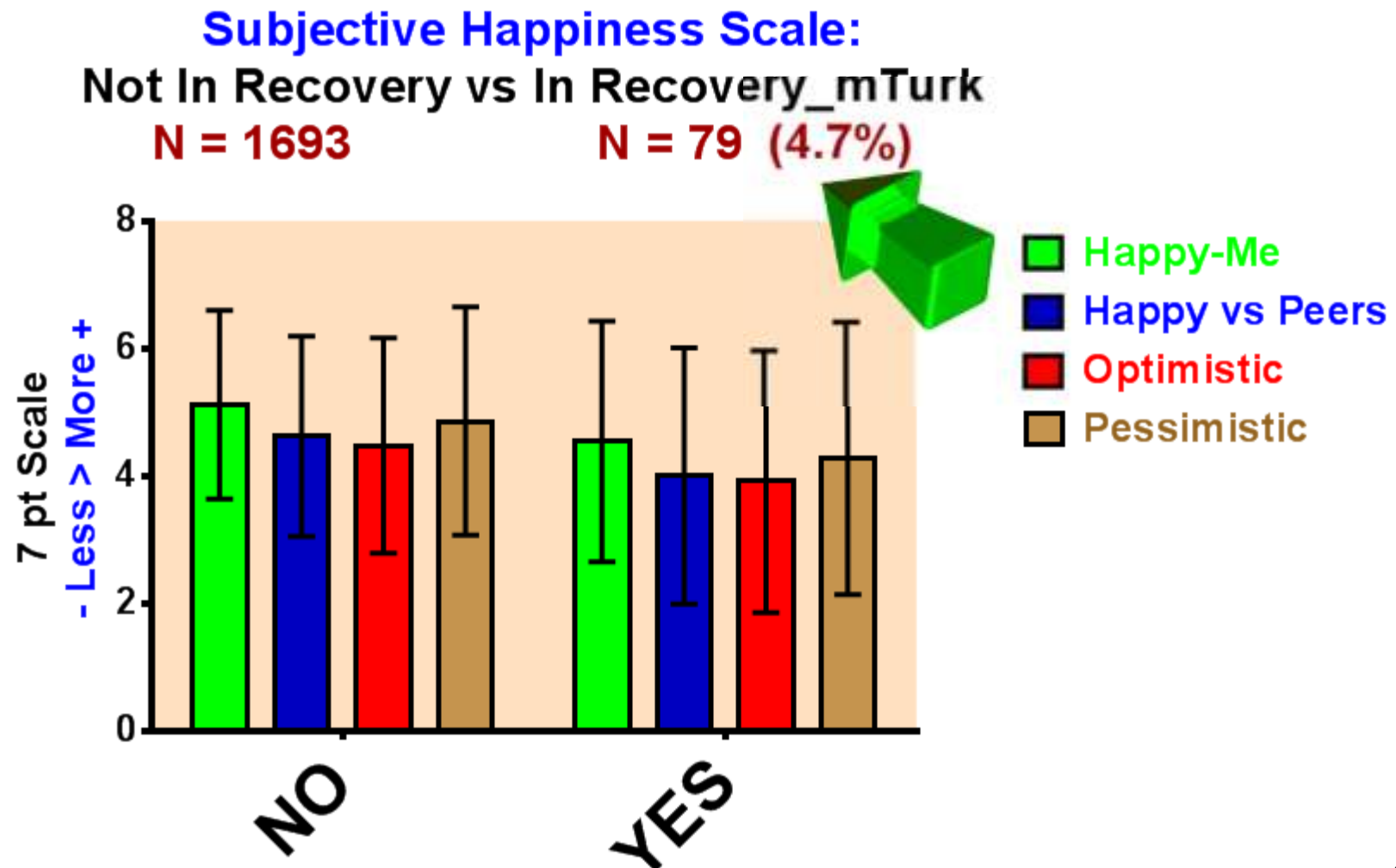
4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

Reverse Coded

1	2	3	4	5	6	7
Not at all						A great deal

Pessimistic

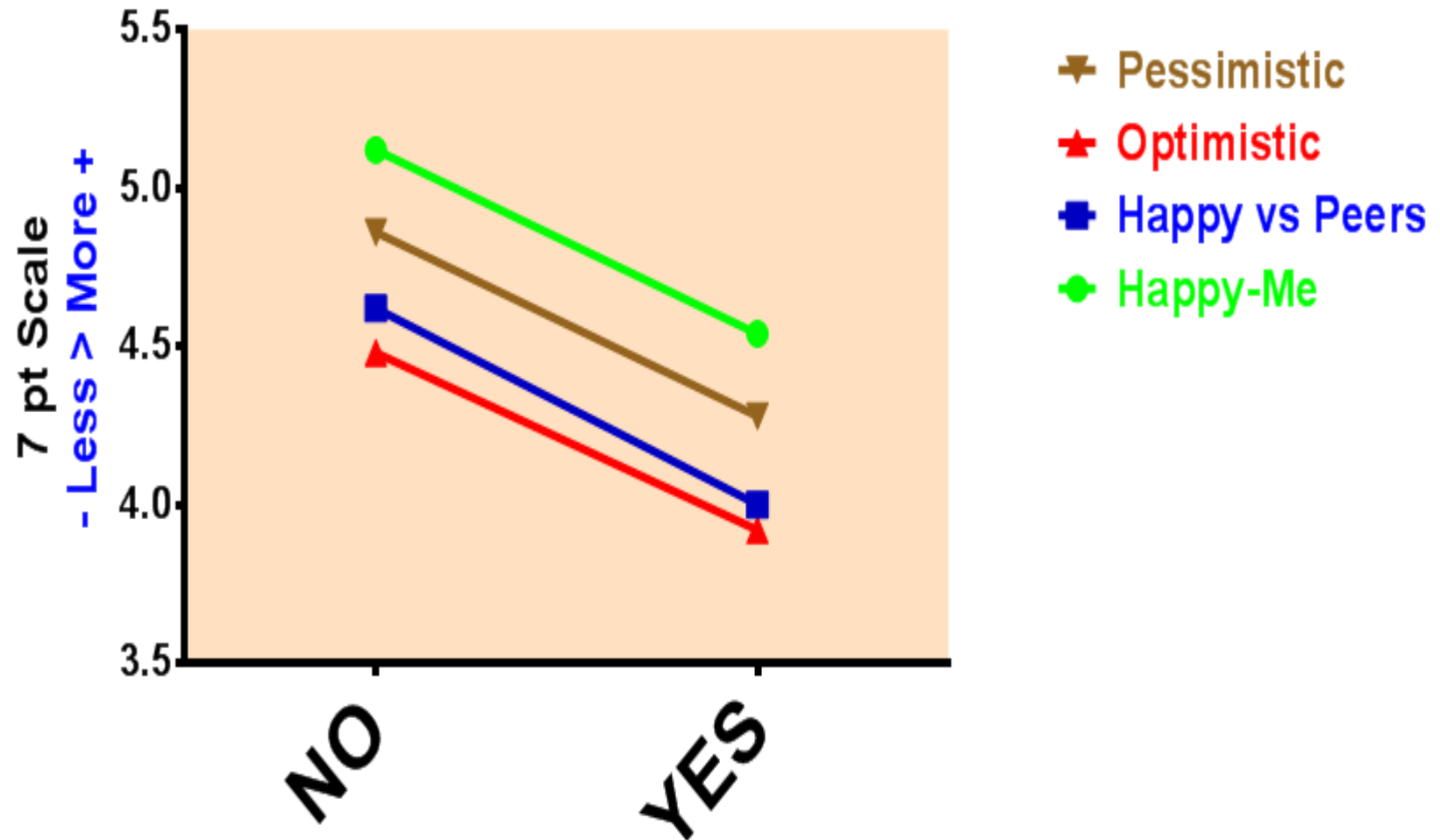
mTurk Q 186: Are you in recovery from an addiction to any drug of abuse (including nicotine or alcohol) or behavior that could be considered addictive (for example: gambling, overeating, or sex)?



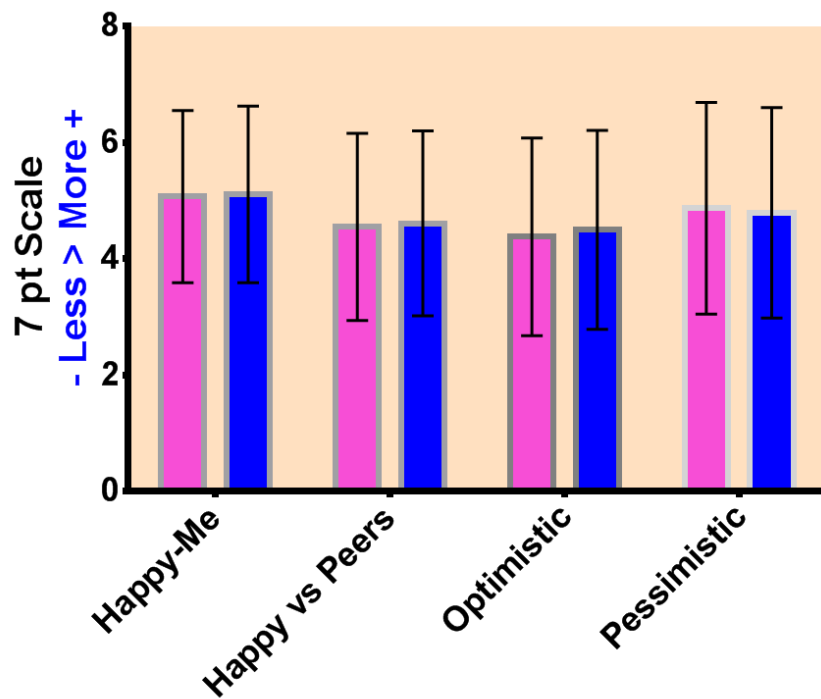
Not In Recovery vs In Recovery_mTurk

N = 1693

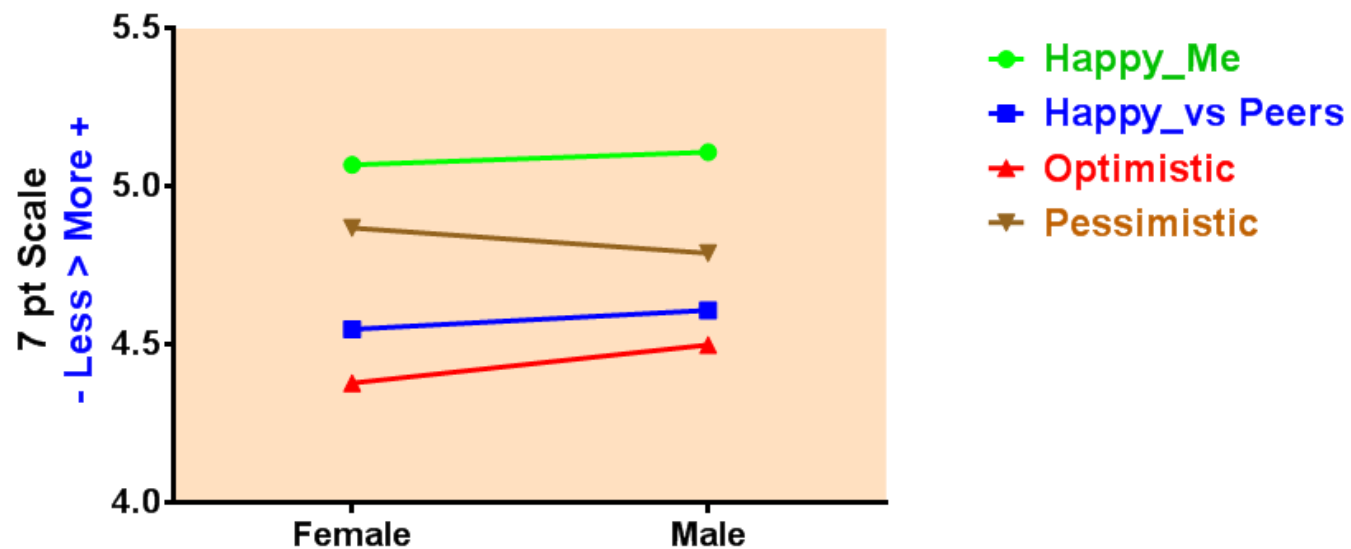
N = 79



Gender_mTurk
N = 79

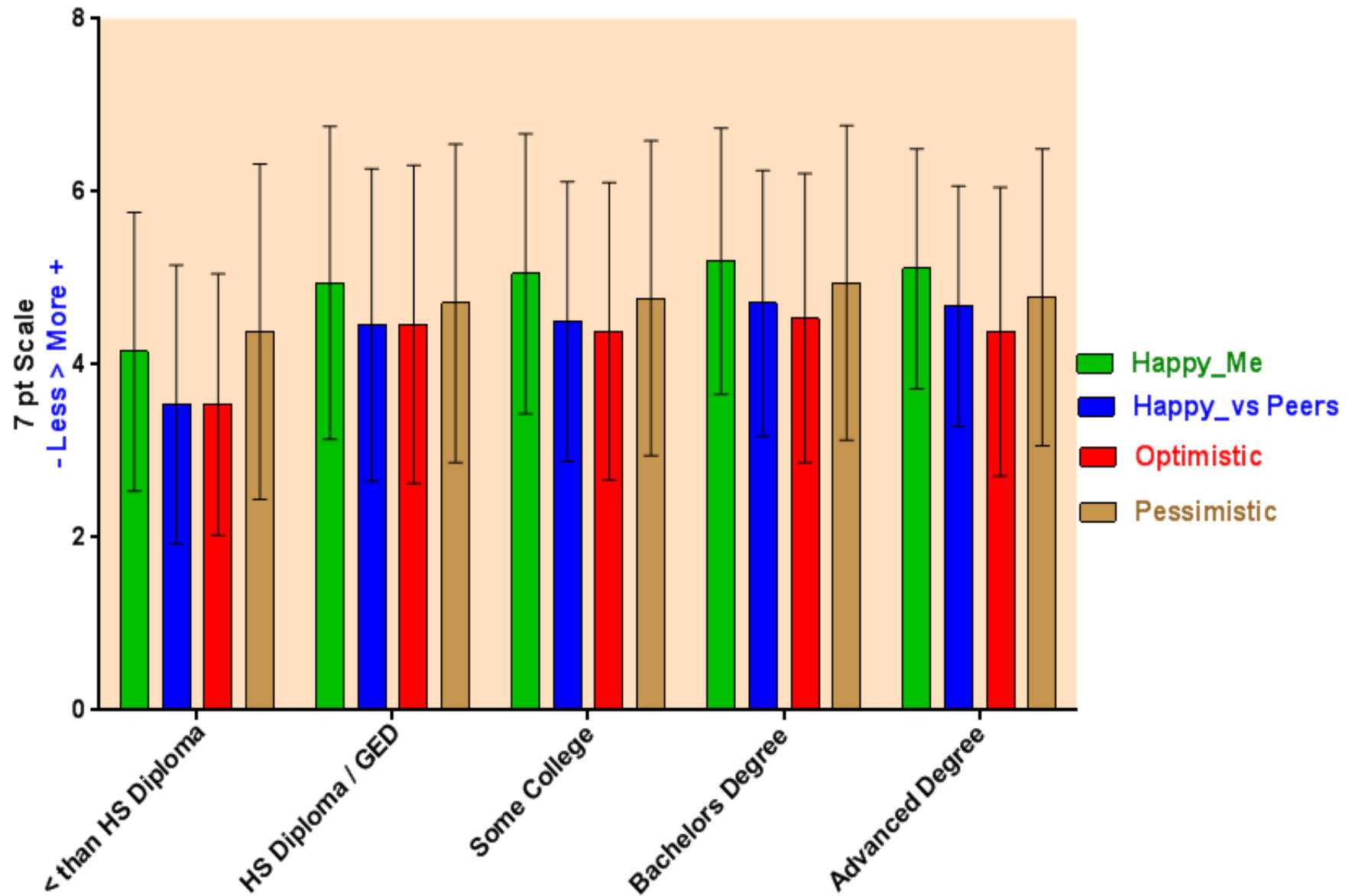


Gender_mTurk
N = 79



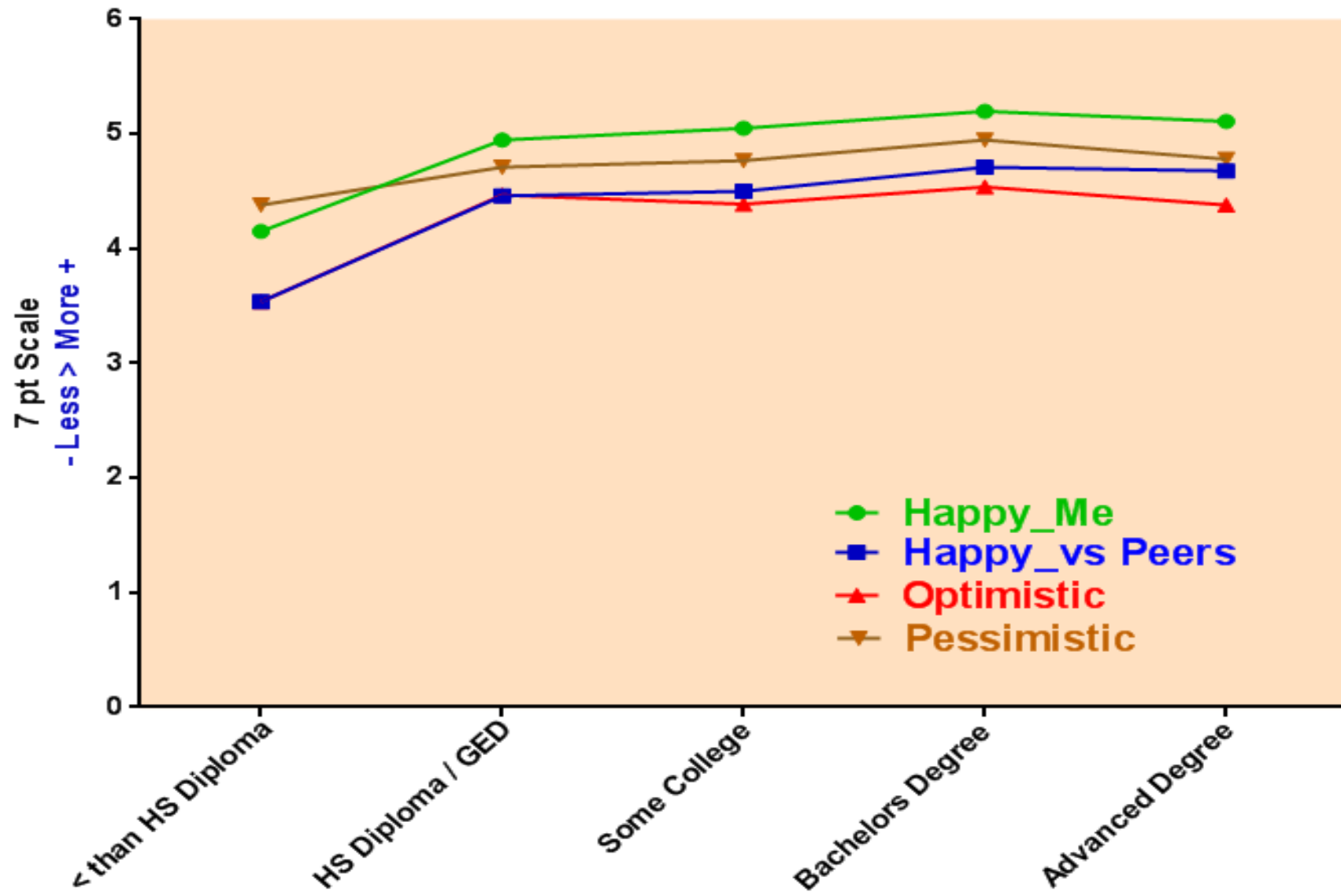
Education_mTurk

N = 79



Education_mTurk

N = 79



Subjective Happiness in Recovery

- Comparison of mTurk SHS w/ other studies of “normal” people
 - Those in Recovery appear slightly less happy
 - Not statistically significant



POSITIVE PSYCHOLOGY INTERVENTIONS

- **Neuroscience + Subjective Happiness**
 - Positive Psychology interventions enhance the neuroplasticity necessary to thrive in recovery

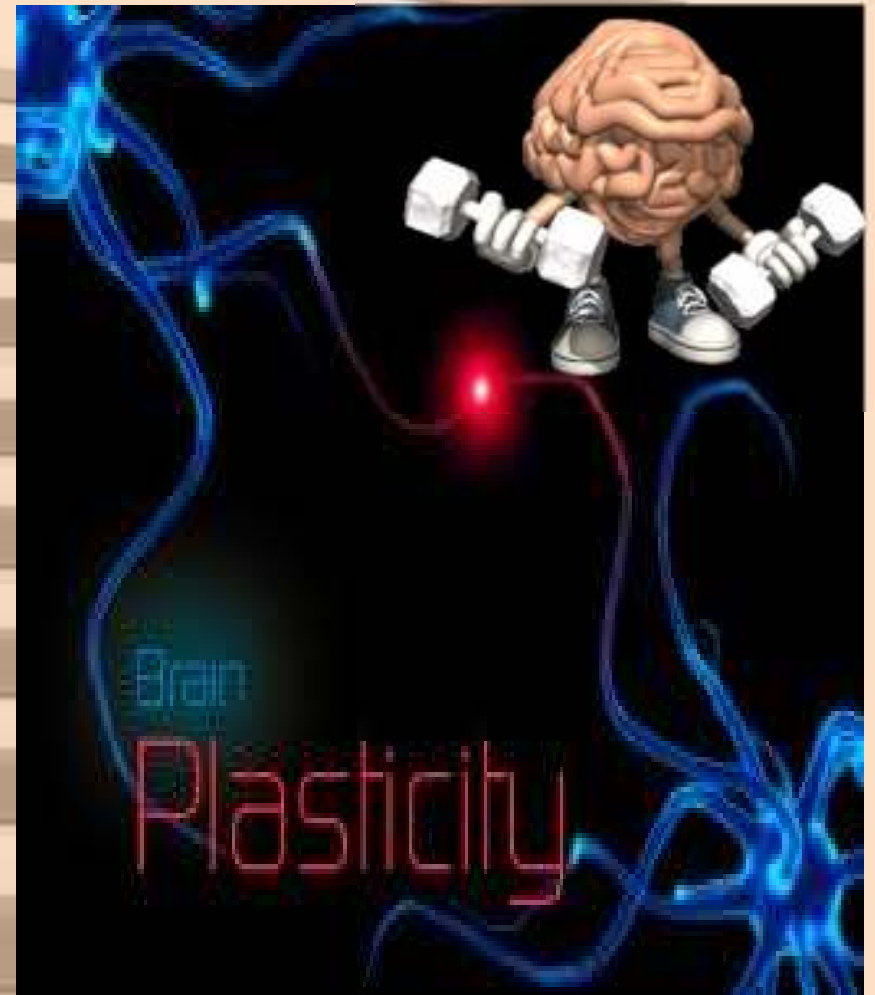


Neuroplasticity



The ability of the brain to rewire and remap itself.

- You can use your *Mind*
- To change your *Brain*
- To change your *Mind* for the better!





ADDICTION: A Brain Disease

It is Mental & Physiological & Spiritual

- **Psychology (Mind & Brain)**

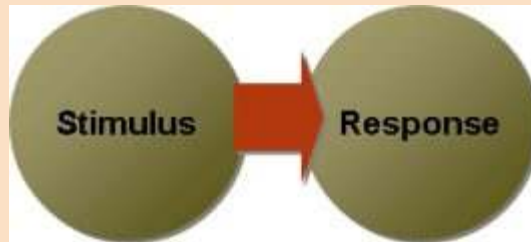
- Compulsivity
- Conditioning
- Habit
- Dysfunction

- Continued use of drugs despite negative consequences

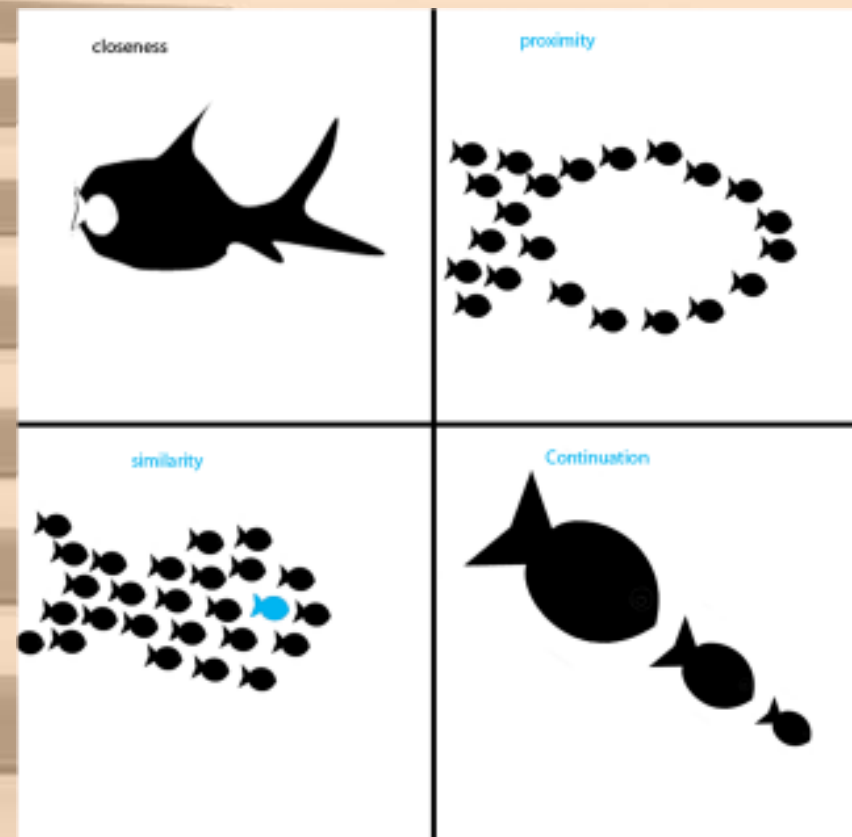
Recovery



Patterns, Conditioning & Learning



The brain is a pattern seeking device that relates whole concepts to one another and looks for similarities, differences, or relationships between them.” (Ratey, 2002, pg.5)

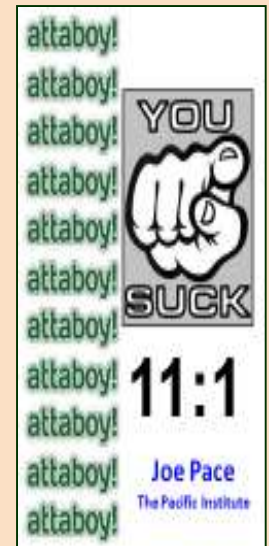
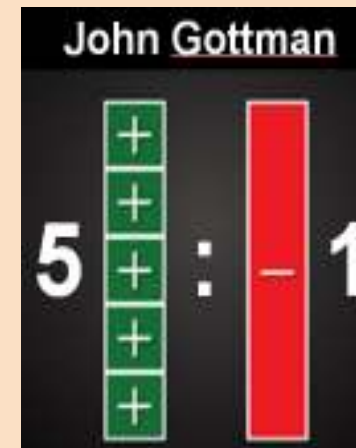


Negativity Bias of Brain

- Negative stimuli get more attention and processing.
- We generally learn faster from pain than pleasure.
- People work harder to avoid a loss than attain an equal gain (“*endowment effect*”).
- Easy to create *learned helplessness*, hard to undo
- Negative interactions: more powerful than positive
- Negative experiences sift into implicit memory.



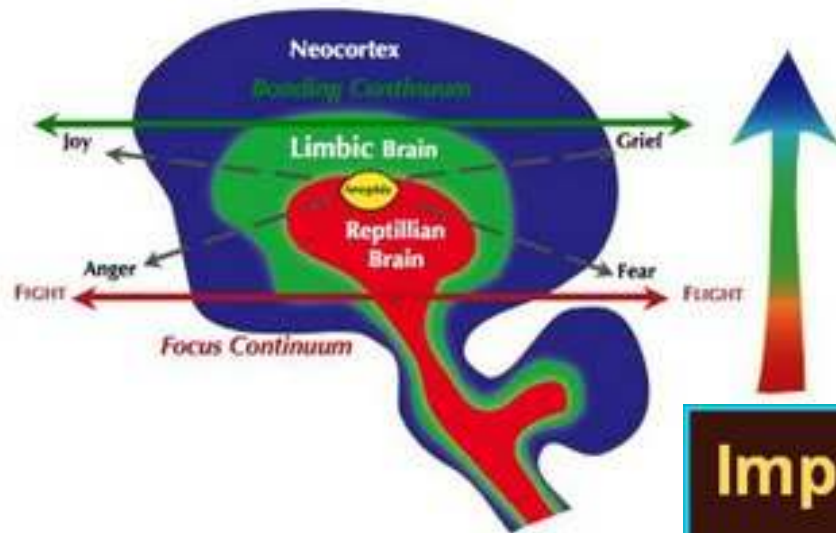
Source: Fredrickson, B. (2009). *Positivity*. Illustrated by GoStrengths.



Brain: Impact of Emotions



Emotional Responses of Human Brain



Impact of Emotion on Learning



→ [↵Enter]

Words = 1 X
Pictures = 10 X
Emotion = 100 + X

Analogy

EMOTIONS



- We mistrust our emotions
 - Reason vs Emotion
 - Win-Loss / Zero Sum Game

Emotion & Imagination

ALWAYS win over

Logic & Reason



Broaden-and-Build Theory* of Positive Emotions

- **Certain discrete Positive Emotions**

- Joy
- Interest
- Contentment
- Pride
- Love

- Broaden thought-action repertoires

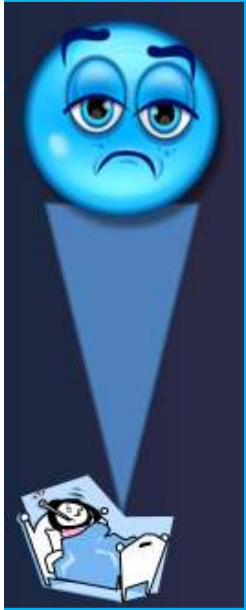
- Build enduring personal resources

- Physical & Intellectual
- Social & Psychological



*Fredrickson & Levenson, 1998

Broaden-and-Build Theory of Positive Emotions



Negative Emotions

- Narrow attention / focus
- Use personal resources
 - e.g., weaken immune system



Positive Emotions

- Broaden attention / mindsets
- Build personal reserves
 - These become durable



Broaden-and-Build Theory of Positive Emotions

- **Undoing Hypothesis**
 - Positive Emotions = Antidote for lingering effect of negative emotions
 - They UNDO effects of negative emotions



Broaden-and-Build Theory of Positive Emotions

- **Positive Emotions:**
 - Broaden thought-action repertoires
 - **Undo lingering negative emotions**
 - Shorten duration of negative emotions
 - May slow progression of disease
 - Fuel psychological resilience
 - **Trigger upward spirals to enhanced well-being**
 - ↑ Creativity
 - ↑ Motivation & Energy
 - ↑ Physical Health
 - **It Feels Good to Feel Good!**

Interventions





Interventions



They ALL begin w/ **POSITIVE**
Self-Talk



Self-Talk Cycle



Teaching Visualization: “Go to Your Room”



- 1st person view / internal
- 3rd person view / external

The “Go To Your Room” visualization exercise was adapted from
Disidentification for Stress Reduction Handbook, by Paul & Marsha Haber.



NEXTSTEP
Magis Thinking



“Self”-Protection

NextStepFacilitations.com

- **SHEILDS UP!**





Positive Emotions

Letting Go of Negative Emotions

- **Give Emotions Form**
—and you **CONTROL** them



Signature Strengths

- Knowledge & Application of character strengths:

- ↑ life satisfaction
- ↑ health
- ↑ optimal performance

People in Recovery
Look at
“What’s Wrong with me?”

Character
Strengths
and Virtues

A HANDBOOK AND CLASSIFICATION

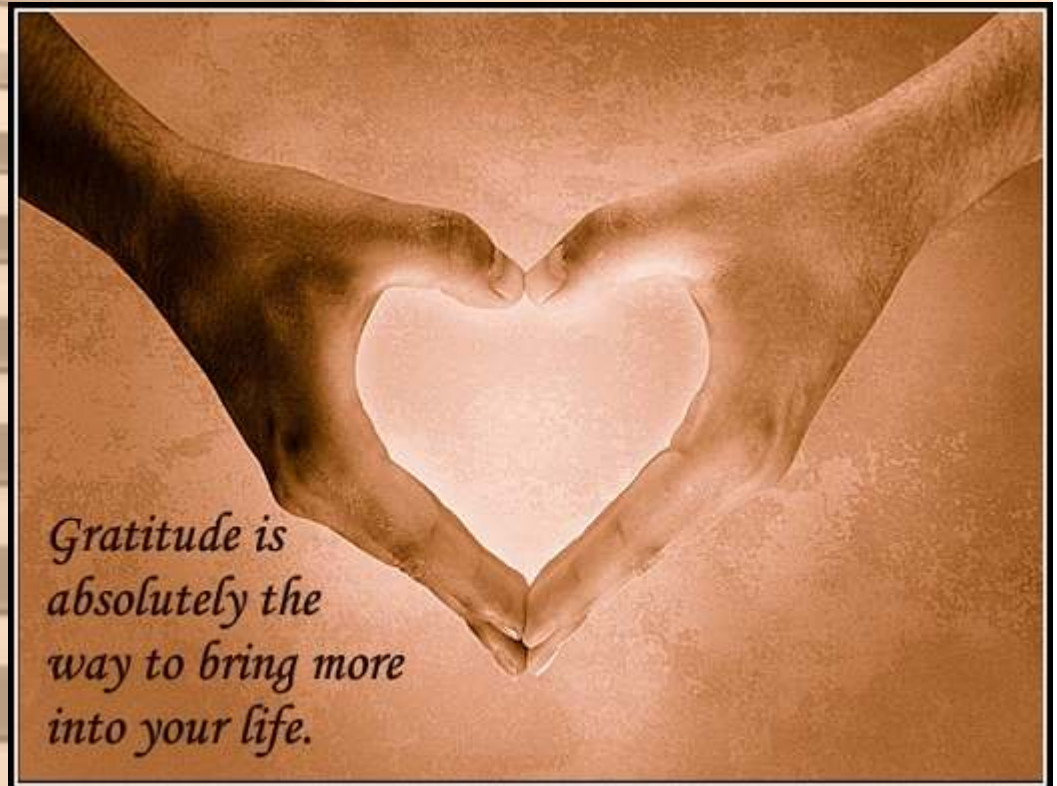
Christopher Peterson
Martin E. P. Seligman



GRATITUDE

A Positive Emotion

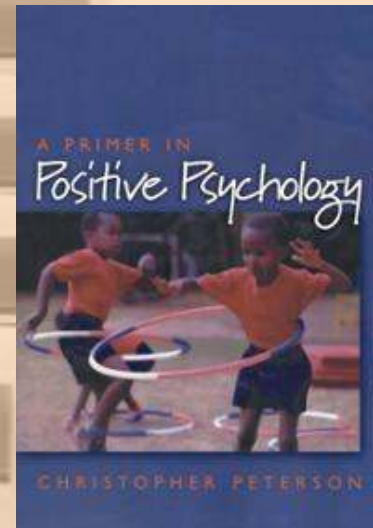
A Personal Strength



*Gratitude is
absolutely the
way to bring more
into your life.*

Gratitude Interventions

- Savoring
- Gratitude Letter
- Gratitude Journal
- 3 Blessings



FORGIVENESS

A Positive Emotion (?)

- **Forgiveness is a complex Neurocognitive & Emotional process**

– Newberg, A.B., 2000





Why Forgive?

Recovery Aspect

12-Step Programs



4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became *willing* to make **amends** to them all.
9. Made direct **amends** to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.

Recovery & Forgiveness

- **Forgive Others**

- Giving up *negative emotions* is the core of forgiveness

- Learn to 'Let Go'



- **Be Forgiven**

- You have **NO** Control over others

- Remember 4th Step



- **Forgive Yourself**

- Prevent letting the negative feelings interfere with positive living

Forgiveness

Holding a Space for Healing

- Can you “Hold a Space” for their Healing?
- Can you wish the person well?
 - Whether you are in their life or not
- Then “Let Go”
 - And hold a space for their healing
- Can you do it for Yourself?



Positive Emotion

Self-Directed Neuroplasticity

- ***‘Taking in the Good’***

» Rick Hanson, PhD

- Mindfulness

- Controlling Attention



Negativity Bias of Brain:

Some Consequences

- Just *having* positive experiences is not enough.
- They pass through the brain like water through a sieve, while negative experiences are caught.
- We need to engage positive experiences actively to weave them into the brain.



(savor)

How to Take in the Good

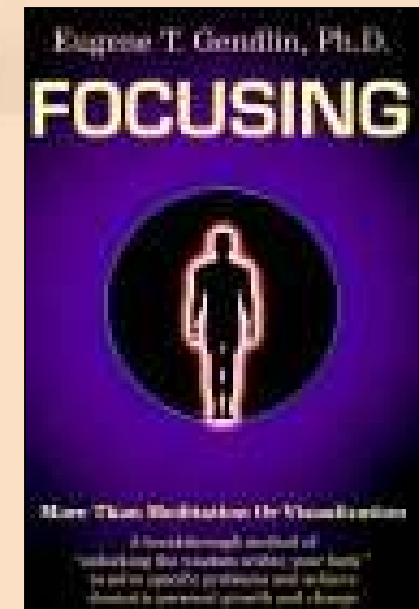
1. Look for positive **facts**, and let them become positive **experiences**.
2. Savor the positive experience:
 - Sustain it for 10-20-30 seconds.
 - Feel it in your body and emotions.
 - Intensify it.
3. Sense and intend that the positive experience is soaking into your brain and body - registering deeply in emotional memory.



FEELAZATION

The anchoring of a powerful emotional component to vivid visualization

- **Emotive Imagery**
- **Felt Sense**
- **Anchoring**



Murphy, 1986, 1990; Murphy, Woolfolk, & Budney, 1988; Gendlin, 1981;
Bandler & Grindlerr, 1979; Horton, 1997; Reese, 2005

Soak it in *Wallow* in Positivity



So Let's
Wallow!



Take Home Points

- **Addiction: Disease of the Brain**

- Can be treated
 - Double Standard in Treatment
- Developmental Disease
- Multifaceted



- **Neuroplasticity**

- Negativity Bias of Brain

- **Brain & Learning**

- **Brain & Emotions**

- Broaden & Build / + Emotions
- Gratitude
- Forgiveness
 - Letting Go



- **Interventions:**

- Exercise
- Self-Talk
- Shield's Up
- Set Boundaries
- MAGIS Thinking
- Feelazation
- Gratitude
 - Savoring
 - Gratitude Journal
 - Gratitude Letter
 - 3 Blessings
- Letting Go
 - Flush it!
- Hold a Space for Healing
- Self-Directed Neuroplasticity
 - TIG – Taking In the Good
- Signature Strengths
- Enneagram



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- **Slides are on NextStep website**



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