How is the brain actually organized?
What’s going on in there???
Can brain structure change?

Does brain structure actually influence chances of drug/alcohol abuse or addiction?

Hope

Choice

Try HARDER!!

REHAB

Hitting Bottom

Use it

What is will? How much of it do I need to stop?

Tolerance

Can brain structure change?

RECOVERY
3 roads toward addiction/abuse

1. Born addicted

2. Work into addiction

3. Genetic disposition
Abuse Predictors in People

Here are the typical personality traits of those more susceptible to drug/alcohol addiction

- Impulsivity/ Under Controlled Sensation Seekers
- Family of origin
- Coping skills
- Genetics/Epigenetics (how drug is experienced)
- Assumptions about self & others (the filters of all perception)
What are the mechanisms of addiction?

- Genetics (as mentioned before)
- Tolerance (forcing the genetic factor)
- Tissue Dependency (what it looks like)
ADDICTIVE MECHANISMS

• **Tissue Dependence**: adaptation of body to constant presence of certain drugs

• The tissues and organs of the body come to depend on the drug to in stay balance

• Desensitization occurs and new levels of brain/body function come to be the norm

• Sudden changes create painful withdrawal
  – Alcoholic needs a drink to ward off the shakes
  – Heroin addict needs a fix to stop body aches, convulsions
Let’s get into the brain

Four major parts of the brain and the sequence they are effected
Pre-Frontal Cortex

Logic
Decision Making
Memory support
Happiness
&

Inhibiting the Limbic system
Motor Cortex

Balance
Motor Skills
Limbic System

- Fight
- Flight
- Freeze
- Pleasure
- Emotional Memory
- Rage
- Sex
- Stress
- Fear
- Anxiety
Autonomic Nervous System

- Heart rate
- Blood pressure
- Blood flow
- Core temperature
- Hunger
- Digestion
How does it all work together?
That was so close...
So how does this happen?

**Alcoholic**
- Darker Colouring
- Indicates depressed brain activity

**Normal**
- Healthy levels of brain activity
Two basic pathways to structural change

1. Reward system hijacking

2. Changing the power differential
Pathway #1
Hijacking the reward system

Ask yourself a question:
What could be better than a great desert... or a steamy evening with your significant other???
The reward system is all about pleasure.
If the drug makes the level of pleasure experienced unbelievable

Then you’ve just been hijacked
Pathway #2
changing the power differential

Drug of choice

Pre-frontal Cortex
Limbic System
The Pre-frontal Cortex is no longer strong enough to stop the Limbic System from doing whatever it feels is right.
Here’s where it all comes together.

Vs.
Pre-Frontal Cortex

Limbic System

IS THAT A SNAKE??

I DON’T KNOW
NO ANSWER?!!?
IT’S A SNAKE
IT’S A SNAKE

ALL SYSTEMS:
ATTACK, DEFEND,
OR RUN FOR IT!!!
LOW PRE-FRONTAL ACTIVITY

- Happy
- Sad
- Mad
- Violent

Or

- I love you sooo much, you’re the best friend in the world and I would do anything for you because you are so awesome and wonderful and I love you so much because you are so nice to me and I like you so much.
OPTIONS

WHAT WORKS & HOW THEY WORK

1. From the outside

2. Within
Outside ➡ In

- Treatment Centers
- AA, NA, and other groups
- Face to face
- Medication
From within

- Meditation
- Self-talk
- Self-compassion
- The drastic move
- Neurofeedback
Enso Counseling

Integrative Counseling, testing, and training

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