

Tobacco Dependence: Patient Management & Cognitive Behavior

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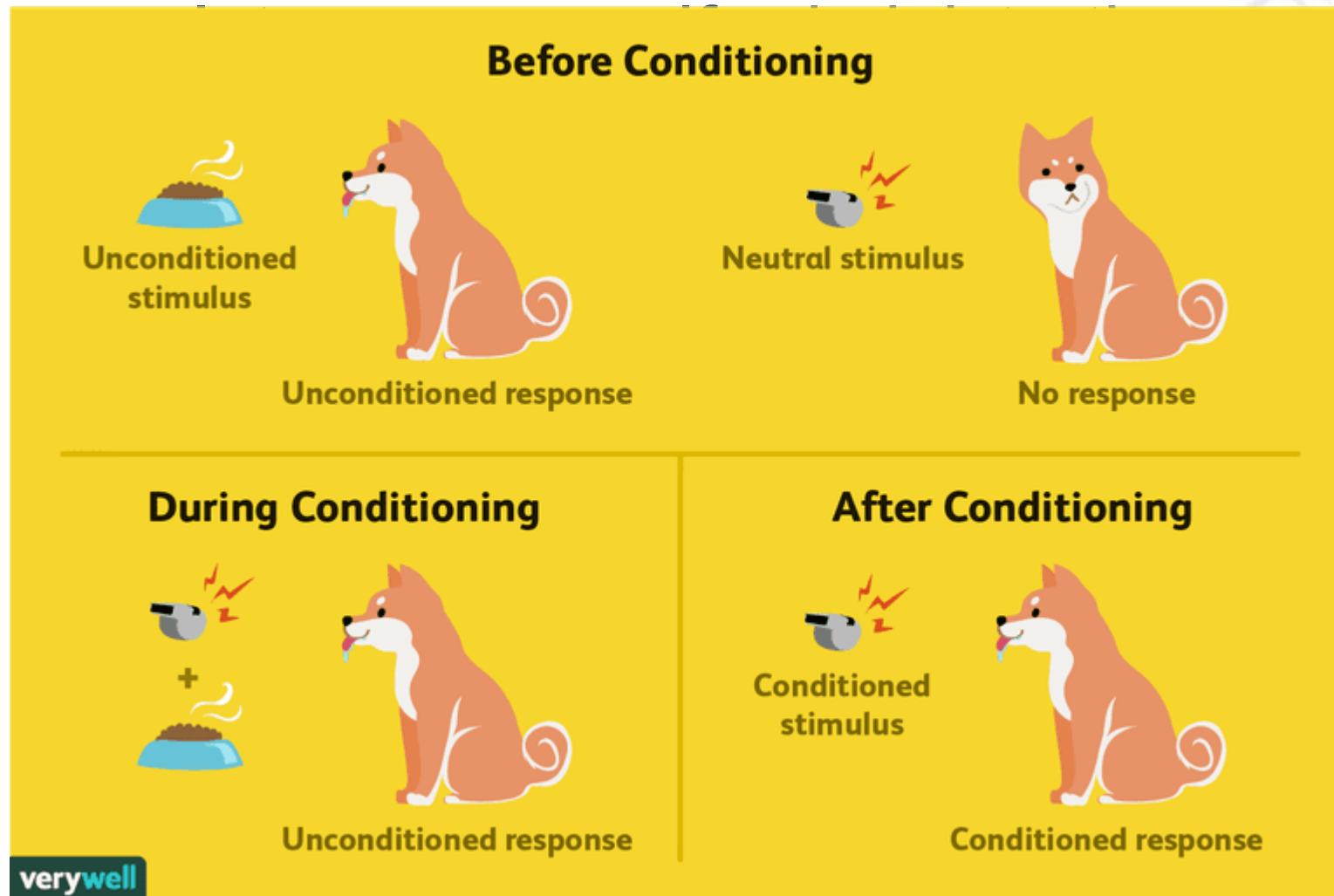
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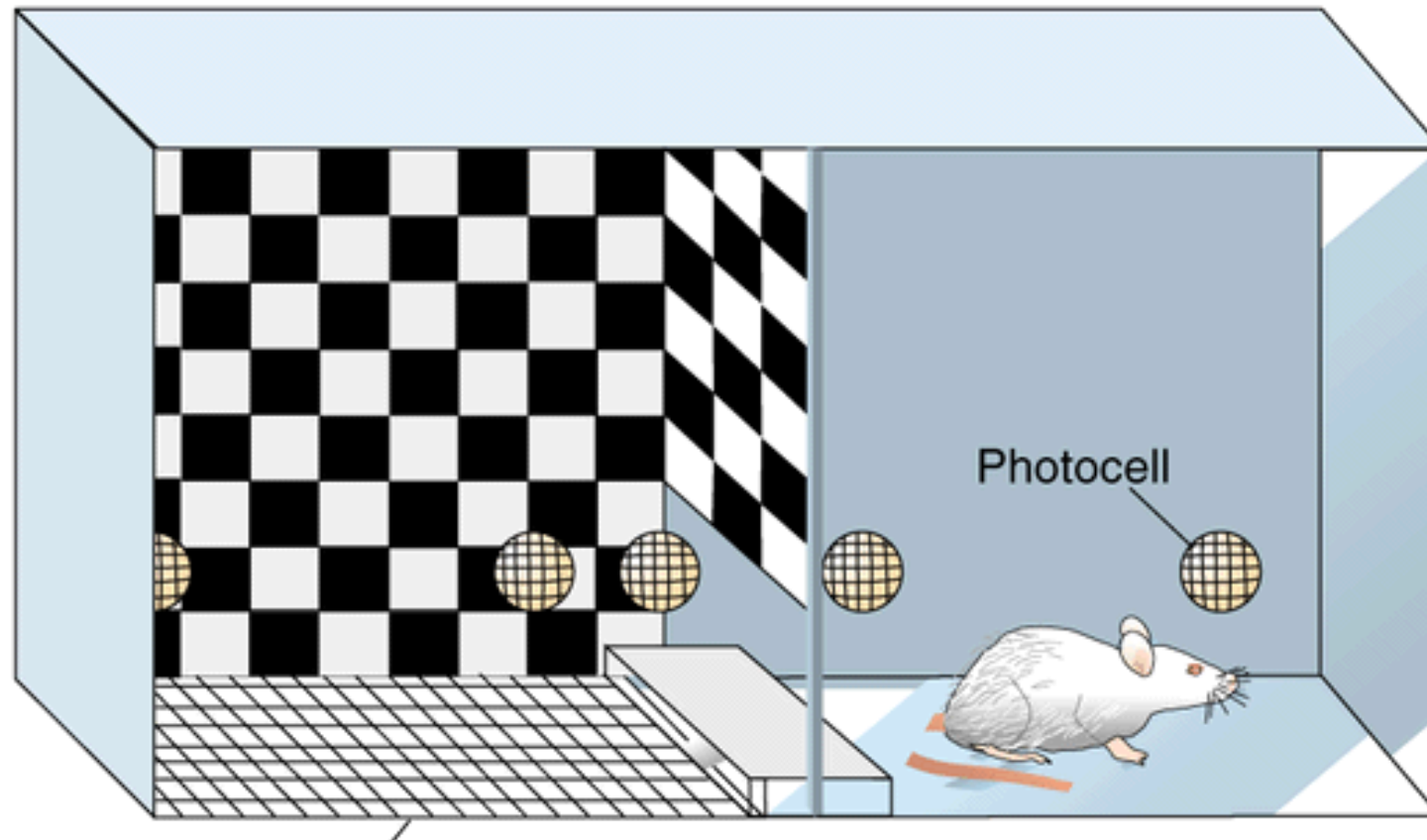


JOHNS HOPKINS
M E D I C I N E

Animal Models of Human Behavior



Conditioned Place Preference



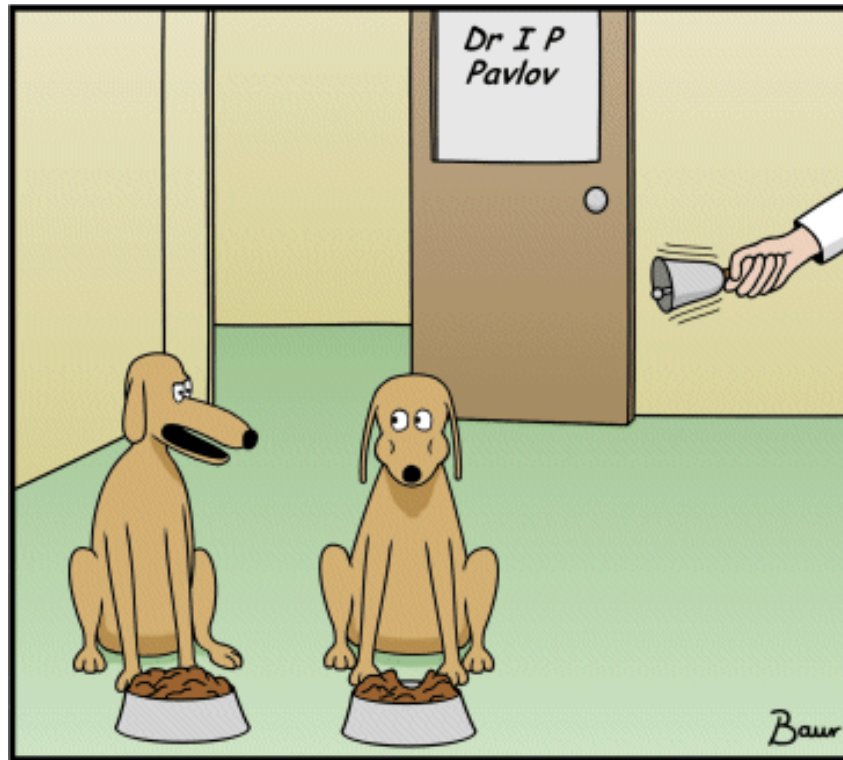
The Conditioned Response



Conditioned Learning

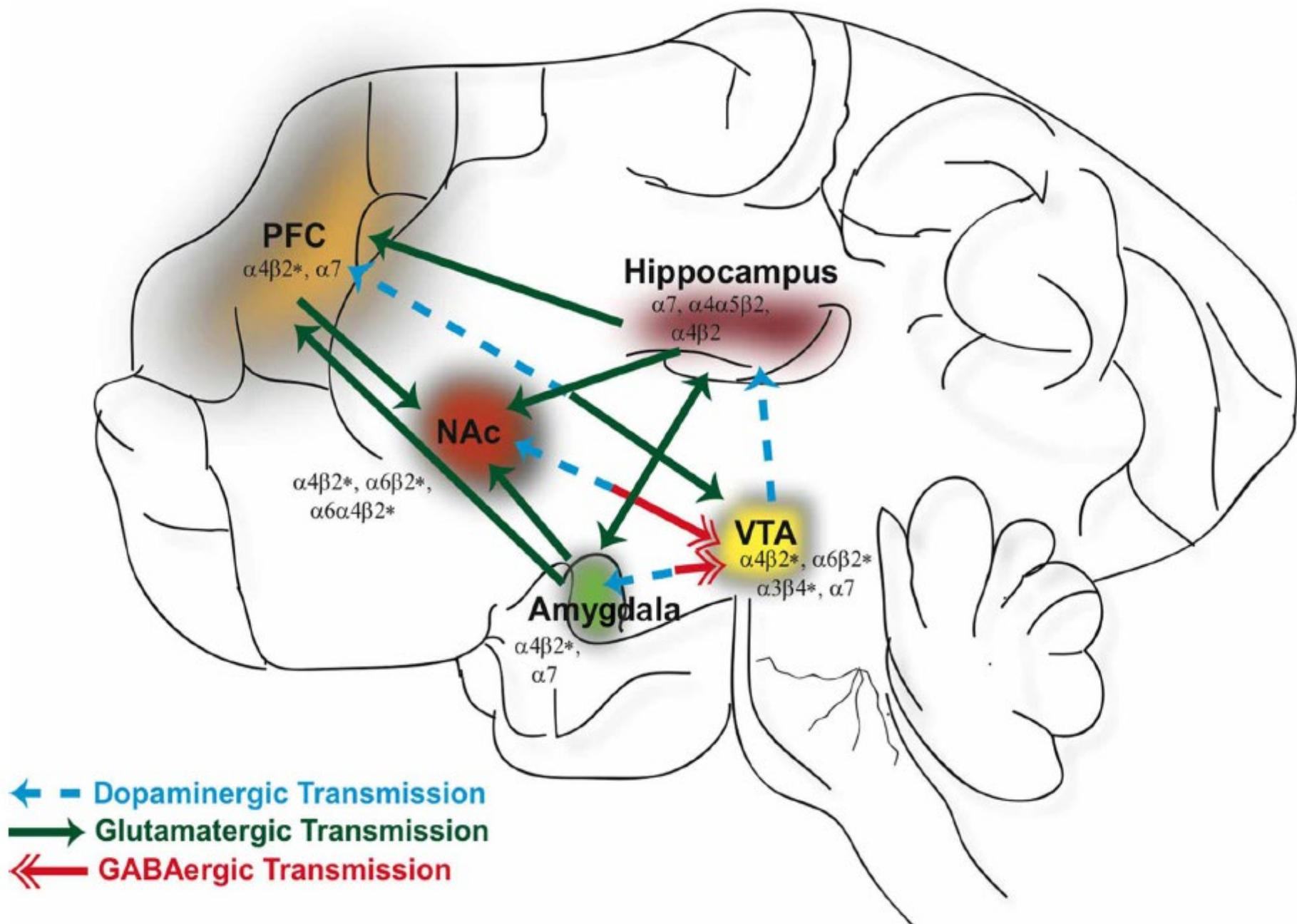
The formation of associations between two independent stimuli.

Conditioned Responses



“Got a cigarette?”

- Driving
- Eating
- Watching TV
- Telephone
- Alcohol
- Work breaks
- Stressful times
- Happy times

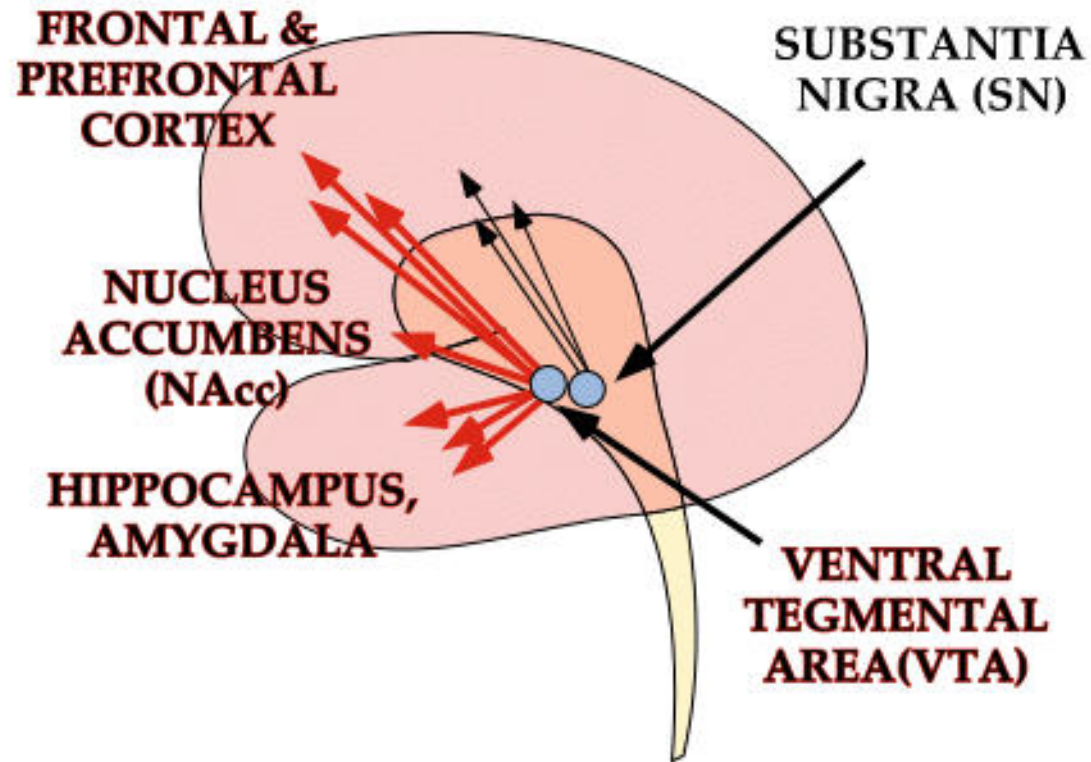


Mesolimbic Dopaminergic system

Emotion

Motivation

Memory



Mesolimbic Dopaminergic system

- **MESOLIMBIC SYSTEM**

- Survival center of the brain

- **Ventral Tegmental Area (VTA)**: picks up what is important to survival from the environment

- Cues the rest of the Mesolimbic System to “pay attention”

- Acetylcholine (NT) – released to “release” the VTA from the survival moment, and creates a euphoric feeling once you are no long in survival mode

- NICOTINE RESEMBLES IN STRUCTURE TO ACETYLCHOLINE

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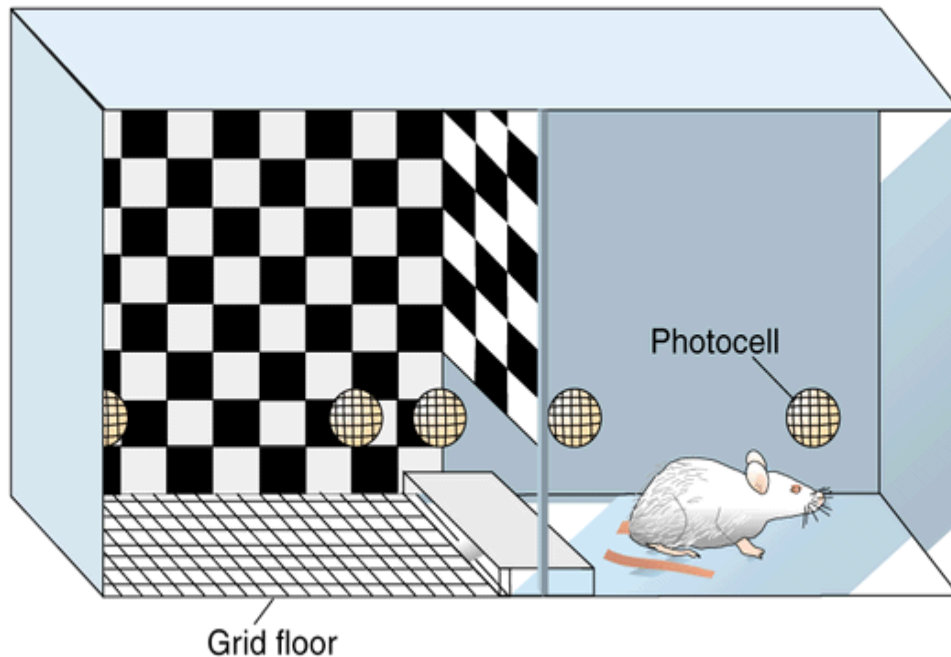
- AND THIS ESTABLISHES MEMORY – whatever one did to stop the VTA from firing is hard wired into memory as a good thing and as a necessity

- **E.g. smoking after eating – this becomes conditioned**

Mesolimbic Dopaminergic system

- MESOLIMBIC SYSTEM of the Brain
 - Survival center of the brain
- Nucleus Accumbens: Generates motivation

Addiction =



NOT “Like”

NOT “Need”

“Pure Want”

Addiction – influence of a substance on the instinct part of the brain

Disordered Motivation: *Compulsion*.

Ambivalence = cardinal sign

- Not exactly ready, willing, or able.
- *Hesitant*
- Patients want change, but don't want change.
- “I desperately want to *want* to quit smoking”



“Come back when you’re ready”

Disordered Motivation: *Compulsion.*

Ambivalence = cardinal sign

- Competing conflicts when you are faced with “wanting to stop smoking” and “wanting to smoke”
- There’s an **AND**
 - Not an OR



“Come back when you’re ready”

Patient

- 48 year old with tobacco dependence



Patient

- 48 year old with tobacco dependence
- Conditional responses
 - Contextual
 - Moods/Emotions
 - Social Phenotypes

Patient

- 48 year old with tobacco dependence
- Conditional responses
 - Contextual
 - Moods/Emotions
 - Social Phenotypes
- Management
 - Mindfulness
 - Pharmacotherapy
 - Harm reduction to harm removal

Questions

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