Cognitive Behavioral Therapy (CBT) for Substance Use Disorder

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RECOVERY RESEARCH INSTITUTE

Disclosures

- Neither I nor my spouse/partner has a relevant financial relationship with a commercial interest to disclose.

Cognitive Behavioral Therapy (CBT)

- What is CBT and its assumptions?
- What are the clinical strategies involved in CBT?
- How effective is CBT as an intervention for SUD?
- How does it work?
- Some conclusions…

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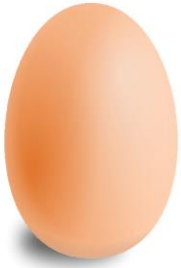
STAGES OF CHANGE:
RELATED TREATMENT & RECOVERY SUPPORT SERVICES

PRECONTEMPLATIVE

In this stage, individuals are not even thinking about changing their behavior. They do not see their addiction as a problem: they often think others who point out the problem are exaggerating.



CONTEMPLATIVE

In this stage people are more aware of the personal consequences of their addiction & spend time thinking about their problem. Although they are able to consider the possibility of changing, they tend to be ambivalent about it.

PREPARATION

In this stage, people have made a commitment to make a change. This stage involves information gathering about what they will need to change their behavior.

ACTION

In this stage, individuals believe they have the ability to change their behavior & actively take steps to change their behavior.

MAINTENANCE

In this stage, individuals maintain their sobriety, successfully avoiding temptations & relapse.

HARM REDUCTION
* Emergency Services (i.e. Narcan)
* Needle Exhanges
* Supervised Injection Sites

SCREENING & FEEDBACK
* Brief Advice
* Motivational Interventions

SREENING, BRIEF INTERVENTION, & REFFERAL TO TREATMENT (SBIRT)

CLINCAL INTERVENTION
* Phases/Levels (e.g., inpatient, residential, outpatient)
* Intervention Types
  - Psychosocial (e.g. Cognitive Behavioral Therapy)
  - Medications: Agonists (e.g. Buprenorphine, Methadone) & Antagonists (Naltrexone)

NON-CLINICAL INTERVENTION
* Self-Management/Natural Recovery (e.g. self-help books, online resources)
* Mutal Help Organizations (e.g. Alcoholics Anonymous, SMART Recovery, Lifering Secular Recovery)
* Community Support Services (e.g. Recovery Community Centers, Recovery Ministries, Recovery Employment Assistance)

CONTINUING CARE (3m- 1 year)
Recovery Management Checkups, Telephone Counseling, Mobile Applications, Text Message Interventions

RECOVERY MONITORING (1-5+ yrs)
Continued Recovery Management Checkups, therapy visits, Primary Care Provider Visits

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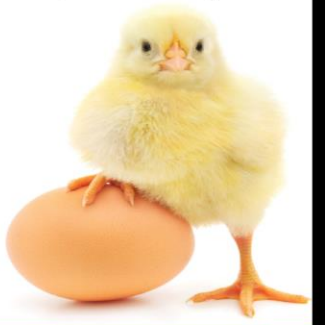

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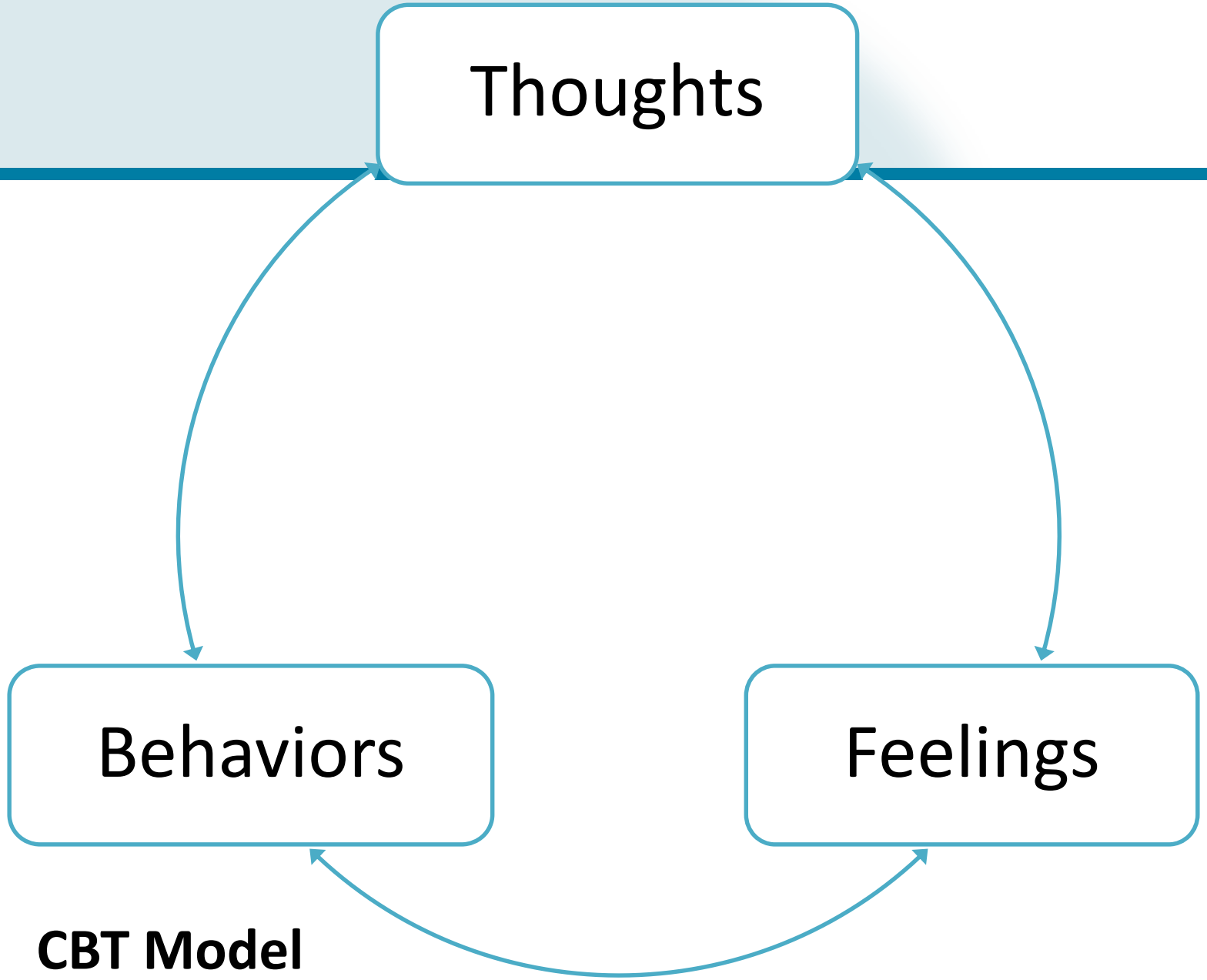
TSF

"Quitting smoking is easy, I've done it dozens of times" –Mark Twain



CBT Model

Major psychosocial theories for SUD

Theory	Key process mechanisms for…	
	Substance use	**Recovery**
Social Control	Lack of strong bonds with family, friends, work, religion, other aspects traditional society	Goal-direction, structure and monitoring, shaping behavior to adaptive social bonds
Social Learning	Modeling and observation and imitation of substance use, social reinforcement for and expectations of positive consequences from use; positive norms for use	Social network composed of individuals who espouse abstinence, reinforce negative expectations about effects of substances, provide models of effective sober living
Stress and coping	life stressors (e.g., social/work/financial problems, phys/sex abuse) lead to substance use especially those lacking coping and avoid problems; substance use form of avoidance coping, self-medication	Effective coping enhances self-confidence and self-esteem
Behavioral economics	Lack of alternative rewards provided by activities other than substance use	Effective access to alternative, competing, rewards through involvement in educational, work, religious, social/recreational pursuits

Source: adapted from Moos, RH (2011) Processes the promote recovery from addictive disorders.

What is CBT for SUD?

- Based on **social-cognitive learning theory**
  - Substance use functionally related to major life problems
  - Coping deficits (e.g., life stress, substance-related cues) maintain use/relapse
- **Coping skills training** addresses and overcomes skill deficits
  - Enhance identification and coping with high-risk situations/cues
  - Increase active adaptive behavioral-cognitive coping
  - Enhance sobriety-based social support

CBT addresses two major types of learning that contribute to SUD…

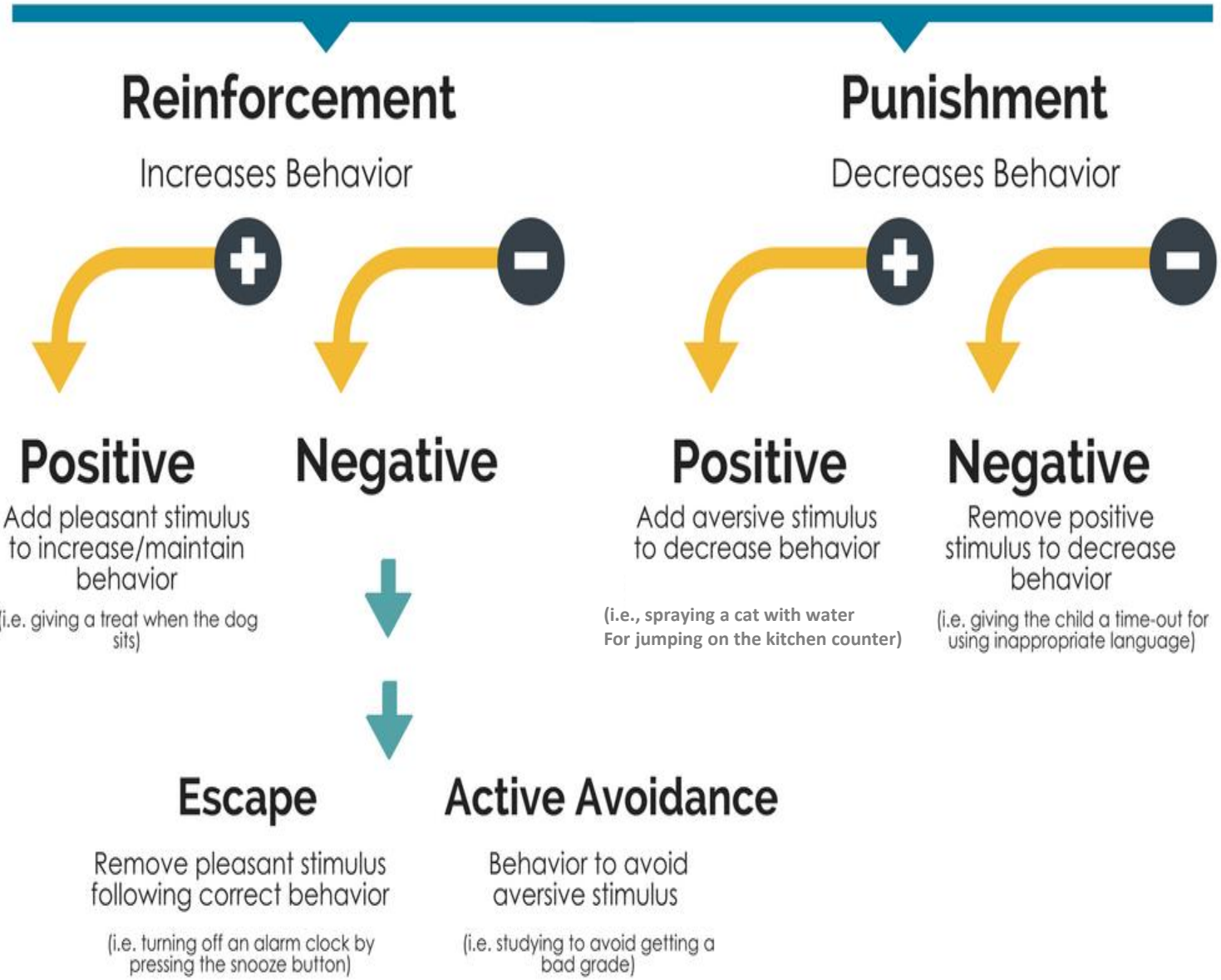
Learning by *Association* 'Classical' Conditioning

- Neutral stimuli become **triggers for** substance use/cravings, through repeated associations between stimuli and drug (conditioning).
- **External triggers:** People, places, time of day, day of week, things…
- **Internal triggers:** thoughts, emotions, pain/physiological changes

Learning by *Consequence* 'Operant' Conditioning

- Substance use is shaped by the consequences of use.
- **Positive Reinforcement:** if after using a substance a person feels more comfortable in social situations or happier etc.
- **Negative Reinforcement:** if substance use reduces anxiety, tension, stress, or depression; future use to reduce or terminate the unpleasant experience

Operant Conditioning



Assumptions of CBT

Main Assumption:

Substance problems arise/continue due to deficits in sober coping skills.

Patient is motivated to stop/reduce substance use- needs to acquire skills to do so.

1. Failure to engage in active coping when encountering precipitants to substance use contributes to relapse.
2. CBT is differentially effective in **increasing active coping efforts** when compared to alternative interventions
3. Because problems with coping are attributable to skills deficits, **performance-based skill training techniques** are necessary to remediate deficits

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Common Components of CBT

- Establish good therapeutic relationship
- Educate patients: model, disorder, therapy
- Assess illness objectively, set goals
- Use evidence to guide treatment decisions (collaborative empiricism)
- Structure treatment sessions with agenda
- Limit treatment length
- Issue and review homework to generalize learning

Major Goals of CBT

1. Provide social-cognitive learning framework
   - **Substance use becomes predominant coping response to stress**

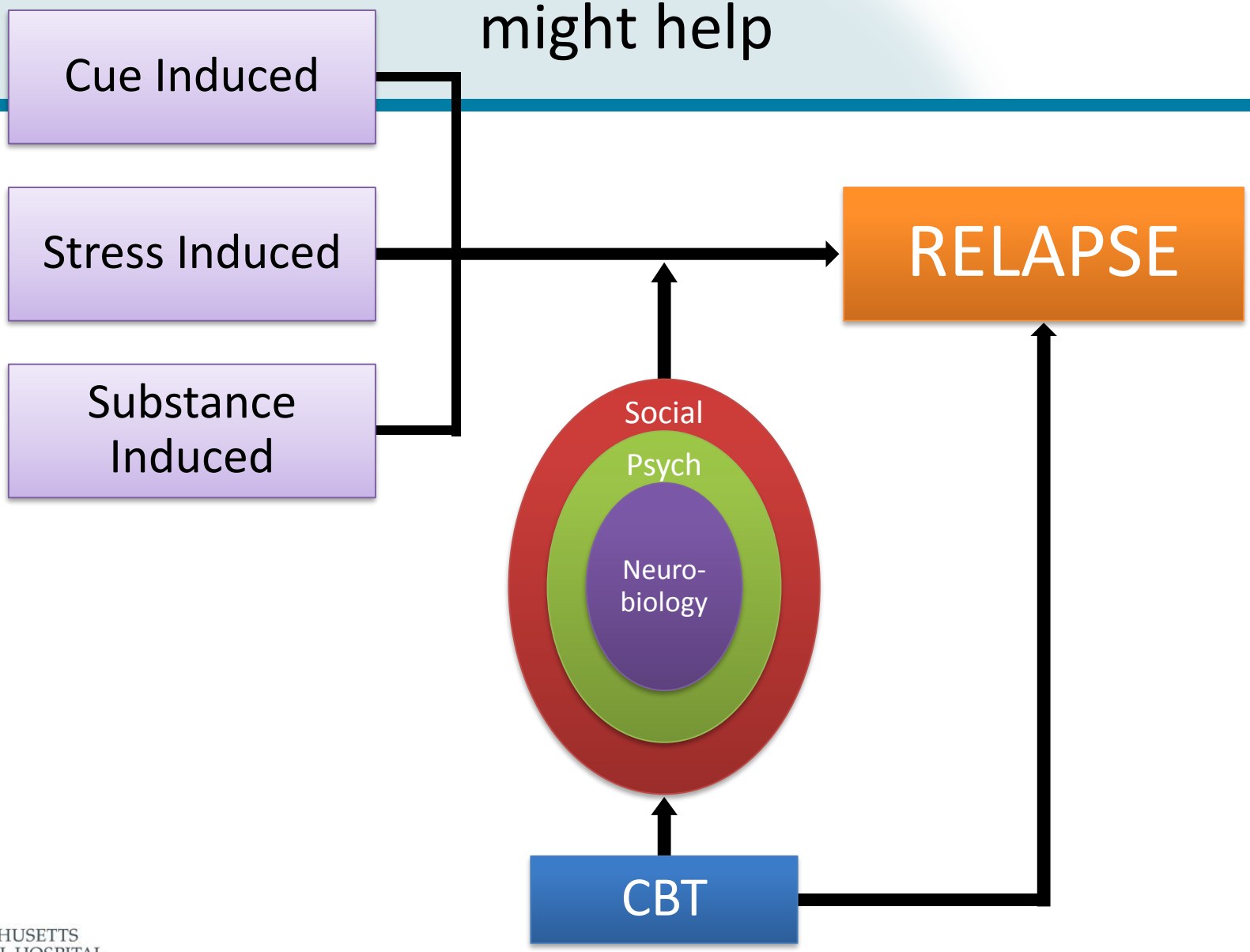
2. Identify triggers ("functional analysis")
   - e.g., environmental, cognitive, affective

3. Teach Skills
   - e.g., problem solving, environmental restructuring, social-interpersonal skills,
     cognitive restructuring, coping with craving/urges, relaxation

4. Consequence control – developing support systems
   - Change positive expectancies about effects of use, access alternative reinforcers
   - Develop social systems to support and reinforce abstinence

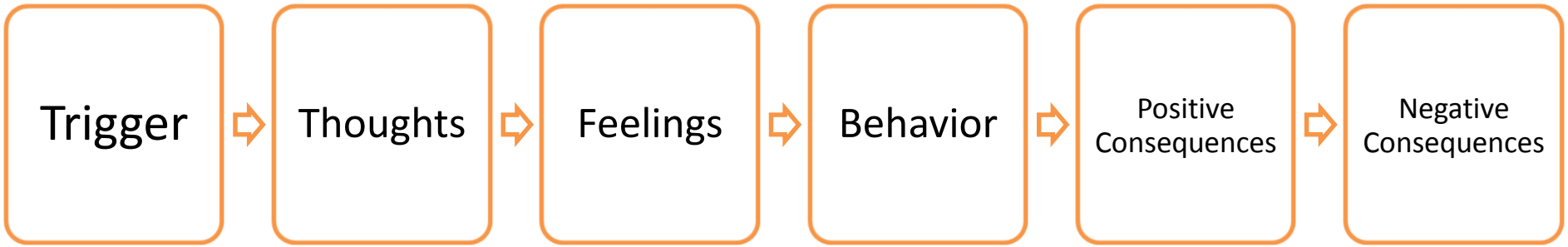
5. Reduce relapse risk (Abstinence Violation Effect)

Common Precursors to Relapse and How CBT might help



Kelly JF, Yeterian, JD, (2013). In McCrady and Epstein. Comprehensive Textbook on Substance Abuse.

Model for CBT Treatment (behavior chain): Functional analysis of substance use behavior



Behavior Chain Modifying Worksheet
Example

Trigger	Thoughts	Feelings	Behavior	Positive Consequences	Negative Consequences
11:45 PM and in bed and not asleep	“I need alcohol to get to sleep"	Anxiety	Drink alcohol	Drowsy Sleep	Wake up early; jittery; worried

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How effective is CBT as an intervention for SUD?

- Meta-analysis of 53 controlled trials (1982-2006) of CBT for adults with alcohol- or drug-use disorders.
- Findings demonstrate utility of CBT across a large and diverse sample of studies and under rigorous conditions for establishing efficacy.

Main Treatment Effect

- Small but statistically significant treatment effect ($g = 0.154$, $p < .005$)
- Effects diminished over time:
  - 6- to 9-months ($g = 0.115$, $p < .005$)
  - 12 months ($g = 0.096$, $p < .05$)

Subgroup Moderators

- Across substances, strongest among **marijuana users** ($g = 0.513$, $p < .005$)
- **CBT combined with additional psychosocial treatment** ($g = 0.305$, $p < .005$; $n = 19$) had a larger effect size than CBT combined with pharmacological treatment ($g = 0.208$, $p < .005$; $n = 13$) and CBT alone ($g = 0.172$, $p < .05$; $n = 21$)
- Large effect size for CBT **compared to no treatment** ($g = 0.796$, $p < .005$; $n = 6$)

Regression Moderators

- **Women** appeared to benefit more from CBT than men ($b = .005$, $p < .05$)
- Benefit of **shorter duration interventions**: length of treatment had a negative association ($b = -.008$, $p < .005$) with effect size
- No difference in effectiveness by format (group or individual)
- Little evidence for its value as an adjunctive treatment particularly in combination with contingency management

Magill M, & Ray, LA. (2009). Cognitive-behavioral treatment with adult alcohol and illicit drug users: a meta-analysis of randomized controlled trials. *J Stud Alcohol Drugs, 70*(4): 516-27

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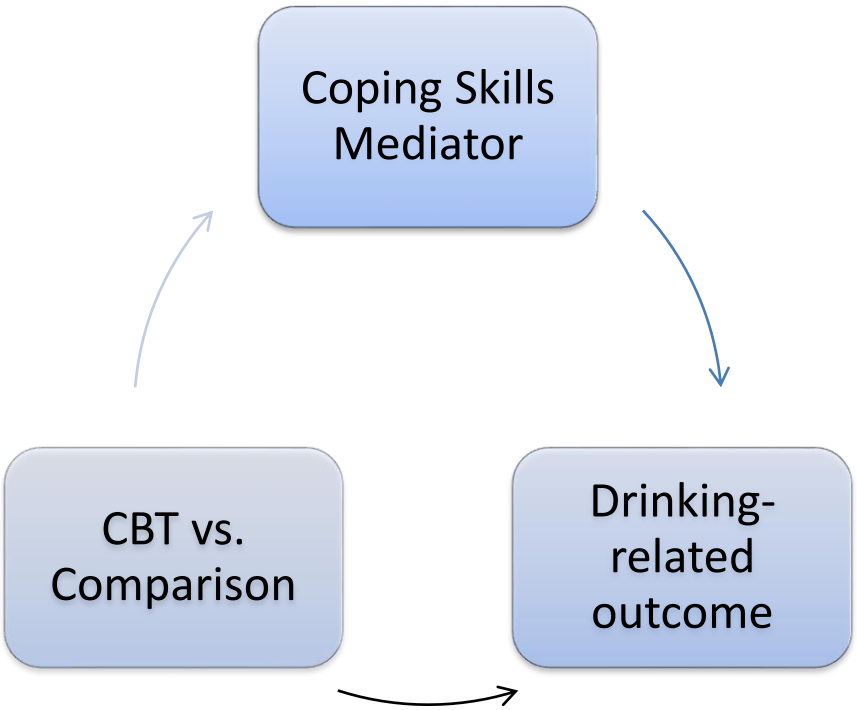
Examining evidence of CBT's hypothesized mechanisms of action



Hypothesis: *CBT for SUD works through increasing cognitive and behavioral coping skills*

Review of 10 studies involving random assignment of participants to treatment condition (CBT and at least one comparison condition)

Four necessary conditions to establish support for coping skills mediation:

1. CBT reduces substance use more than comparison
2. CBT increases coping skill mediator more than comparison
3. Substance outcome co-varies with coping skills mediator
4. Entering mediator as a covariate reduces the treatment effect

Morgenstern, J. and Longabaugh, R. (2000). Cognitive–behavioral treatment for alcohol dependence: A review of evidence for its hypothesized mechanisms of action. *Addiction*, 95: 1475–1490. doi:10.1046/j.1360-0443.2000.951014753.x

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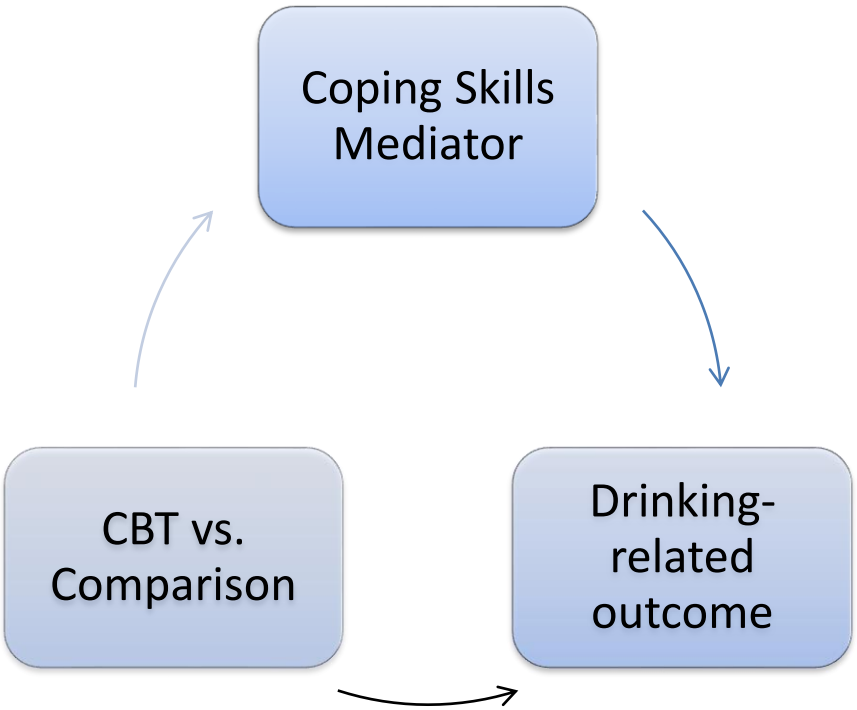

Results indicate little support for the hypothesized mechanisms of action of CBT.

- Overall no reported positive findings
- Most common that none or only one step of the mediational chain supported

Research has not yet established *why* CBT is an effective treatment for SUD.

Possible explanations for negative findings:

- Methodological flaws of prior studies may have obscured detection of effects

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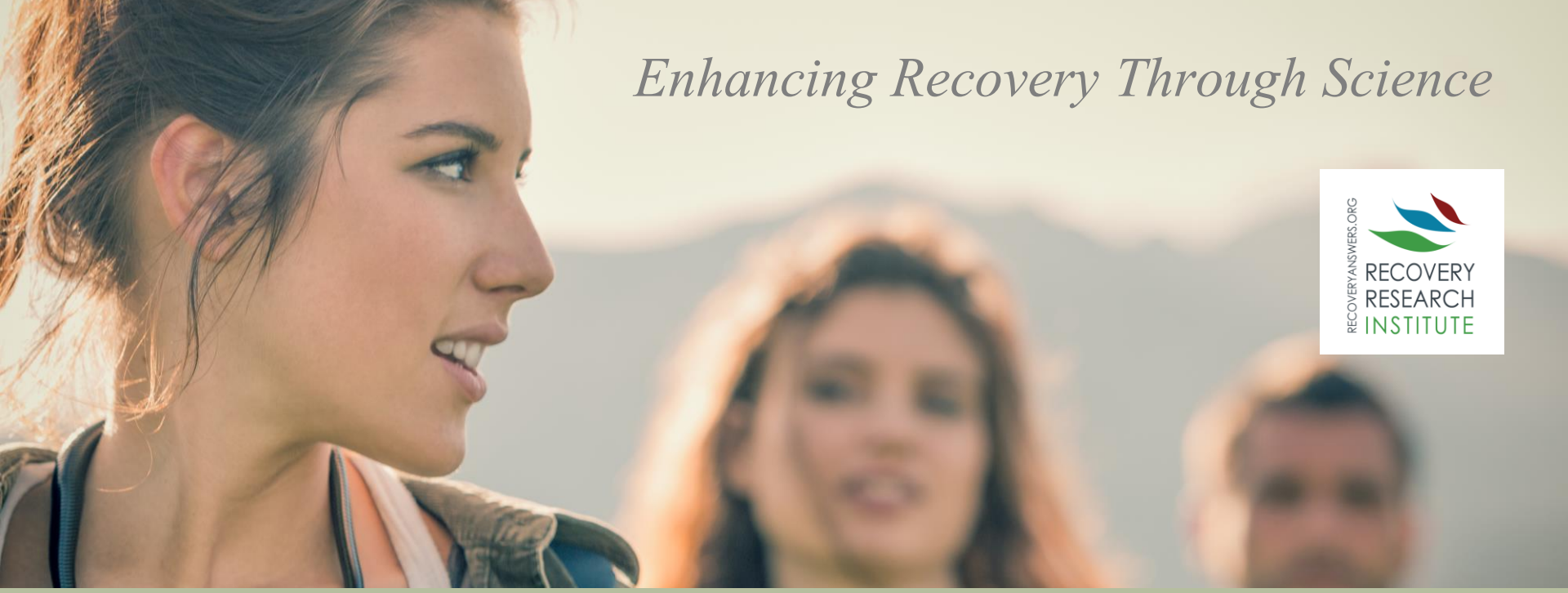
Summary

- CBT represents therapeutic approach consisting of common set of strategies based in social-cognitive learning theory
- Deconditioning-cognitive restructuring-skills building form basis of intervention usually anchored in functional analysis (behavior chain analysis)
- CBTs for SUD are empirically supported but typically not clinically superior to other types of active interventions
- Causal mechanisms of CBT's effects on reducing alcohol/drug use not well-supported suggesting that, similar to other interventions, the common therapeutic encounter provides a context that activates and mobilizes dormant broad cognitive-behavioral strategies within patients that confers therapeutic benefits.



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