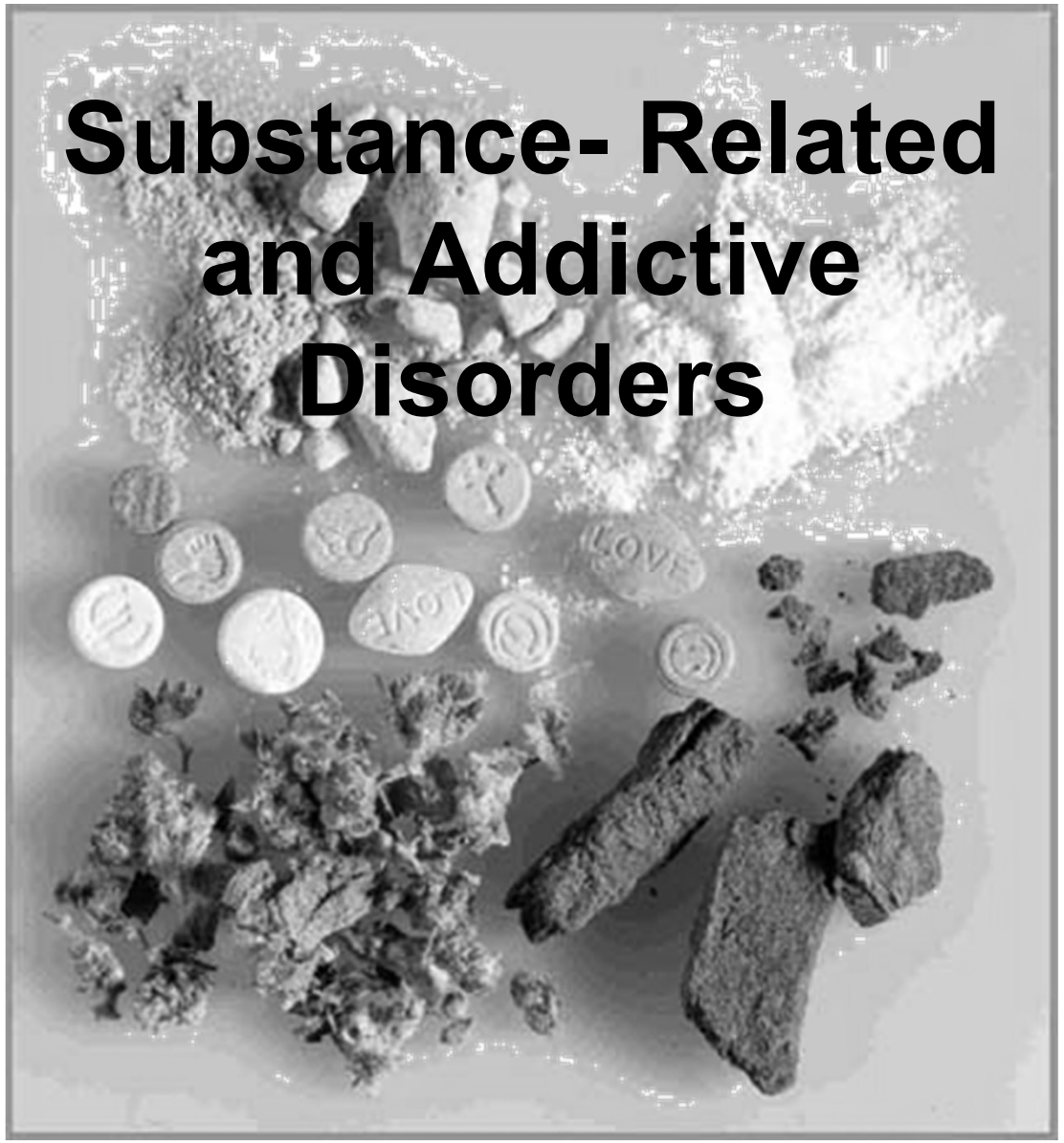
Substance- Related and Addictive Disorders



PSYCH 239

Did You Know That...

- You can become psychologically dependent on a drug without becoming physically addicted?
- Alcohol “goes to women’s heads” more rapidly than men’s?
- Light to moderate alcohol intake is associated with a reduced risk of heart disease and lower death rates?
- Prenatal alcohol use is the leading cause of preventable neurodevelopmental disorders?

Did You Know That...

- Coca-Cola originally contained cocaine?
- Habitual smoking is a form of physical addiction, not just a bad habit?
- Being able to “hold your liquor” better than most people may put you at risk of developing a drinking problem?
- A widely used treatment for heroin addiction involves the substitution of another addictive drug?
- Some of the brain changes that occur in the course of developing gambling addictions closely resemble that ones that arise from substance addiction?

SUBSTANCE –RELATED and ADDICTIVE DISORDERS

DSM uses two major categories of substance-related disorders:

•**Substance use disorders:** Patterns of maladaptive behaviour involving the use of a psychoactive substance. Substance-use disorders include substance-abuse disorders and substance dependence disorders.

•**Substance-induced disorders:** Disorders induced by the use of psychoactive substances, including intoxication, withdrawal syndromes, mood disorders, delirium, and amnesia.

Other Addictive Disorders

- Problem gambling behaviour was considered an impulse control disorder in former editions of the DSM. In DSM-5, *gambling disorder* is classified with other substance use disorders. Gambling disorder has commonalities in expression, causes, comorbidity, and treatment with substance use disorders.

- The broader category, though not formally mentioned in DSM is *process addictions*.
  - Partial exception is *Internet Gaming Disorder* (Conditions for further study: in Appendix 3)

SUBSTANCE –RELATED and ADDICTIVE DISORDERS

Hallmarks of Disordered Substance Use

- Tachycardia
- Delirium tremens
- Delirium
- Disorientation
- Physiological dependence (Addiction)
  - Tolerance
  - Withdrawal
- Psychological Dependence

DSM-5: Substance Use Disorder (eg., Alcohol)

A. A problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Alcohol is often taken in larger amounts or over a longer period than was intended.

2. 2. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.

3. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.

4. Craving, or a strong desire or urge to use alcohol.

5. Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.

6. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.

7. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.

8. Recurrent alcohol use in situations in which it is physically hazardous.

Cont.

- 9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
- 10. Tolerance, as defined by either of the following:
  - a. A need for markedly increased amounts of alcohol to achieve intoxication or desired effect. b. A markedly diminished effect with continued use of the same amount of alcohol.
- 11. Withdrawal, as manifested by either of the following:
  - The characteristic withdrawal syndrome for alcohol
  - Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

Cont.

- Specifiers:
  - Mild: Presence of 2-3 symptoms.
  - Moderate: Presence of 4-5 symptoms.
  - Severe: Presence of 6 or more symptoms.

  - In early remission (3 to 12 months)
  - In sustained remission (12 months or longer)
  - In a controlled environment

SUBSTANCE –RELATED and ADDICTIVE DISORDERS

Top 3 commonly used drugs in North America:

- Tobacco (about 25% of population)
- Alcohol (about 15% of population)
- Marijuana (about 5% of population)

SUBSTANCE –RELATED and ADDICTIVE DISORDERS

Pathways to Drug Dependence

- Experimentation
  - Most often in a social context
  - No loss of control
- Routine Use
  - Alterations to lifestyle and personal values
  - Borrowing, pawning, theft, lying, manipulation
  - May still believe they have control
- Addiction or Dependence
  - Efforts center on avoiding withdrawal symptoms
  - Life is centered on getting the drug

DRUGS OF ABUSE

- Depressants – "Depress" CNS activity
  - Alcohol
  - Barbituates
  - Opiates
- Stimulants – Heighten CNS activity
  - Amphetamines
  - Cocaine
  - Nicotine
- Hallucinogens – distort sensory perceptions (e.g., *synesthesia*, colors, sounds, textures)
  - LSD
  - Phencyclidine (PCP)
  - Marijuana
- Inhalants – GABA effects

DRUGS OF ABUSE

- Risk factors for alcoholism
  - Gender
    - Rates about equal, but women start later and progress faster.
  - Age (starting before 40)
  - Antisocial Personality Disorder
  - Family history
    - Both heritable and modeling effects
  - Sociodemographic factors
    - Lower SES and education, Aboriginal > non-Aboriginal
    - The damaging effects of alcohol abuse vary across ethnic groups in Canada, likely because of different cultural constraints and biological tolerance of alcohol.

DRUGS OF ABUSE

Alcohol

- Conceptions of Alcoholism: Disease, Moral Defect, or Behaviour Pattern?
- Psychological Effects of Alcohol
- Physical Health & Alcohol
  - Alcohol-induced Persisting Amnestic Disorder (aka Korsakoff's Syndrome)
    - Confusion, disorientation, recent memory loss
    - Malnutrition
    - FASD
- Moderate Drinking: Is There a Health Benefit?
  - ↑ HDL
  - ↓ Clotting Risk
  - ≤ 14/wk Men
  - ≤ 9/wk Women no more than 2 / day for either.

On the other hand…

Alcohol plays a role in deaths due to:

Snowmobile accidents: about 77% of cases

Homicides: over 50% of cases

Traffic Accidents: over 40% of cases

Boating accidents: about 40% of cases

Suicides: over 20% of cases

DRUGS OF ABUSE

Barbiturates

- Sedatives
  - Mostly among middle aged adults
  - Synergistic effect with alcohol (≈ 4x)
  - Requires medically supervised withdrawal

Opiates

- Intense rush
  - Narcotics
  - Analgesics
  - Endorphins

Stimulants

- Cocaine
- Amphetamines
  - Amphetamine Psychosis

DRUGS OF ABUSE

Cocaine

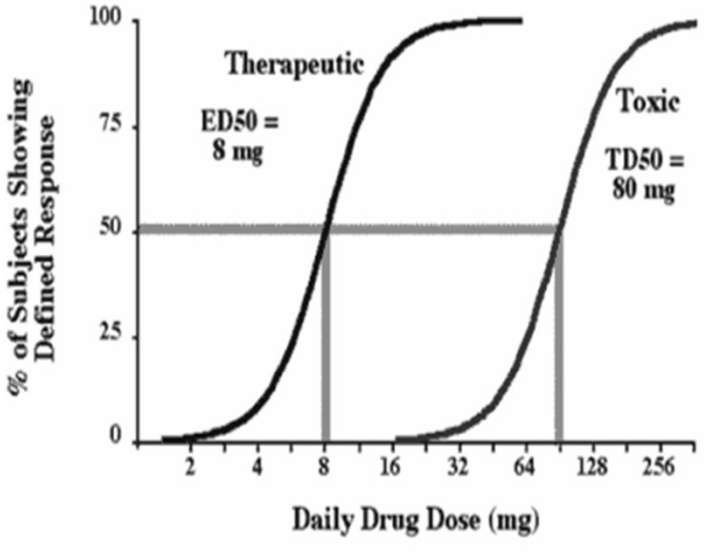
- Snorted or injected
- Often consumed in binges
- Crack – for smoking, fast, concentrated rush
- Freebasing (heating with ether)
- Effects of Cocaine
  - Birth defects
    - Auditory information processing
- Sexual dysfunction
- ↑ body temp, respiratory distress, appetite suppression

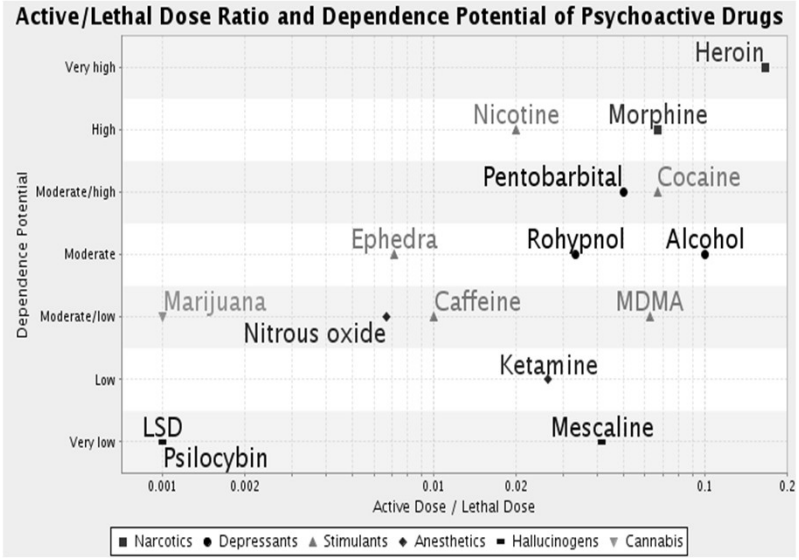
Nicotine

- Nicotine Dependence

Mechanisms of Overdose

- **1) Effective vs Toxic Doses (Primarily Physiological)**
  - Tolerance to intoxicating effects to a drug and the lethal dose both increase over time.
  - Tolerance builds more quickly.
    - Over time, the amount of drug necessary to produce the high gets closer and closer to the lethal dose level.
    - *Neuroadaption:* Brain changes that take place over time to compensate for presence of foreign chemicals.



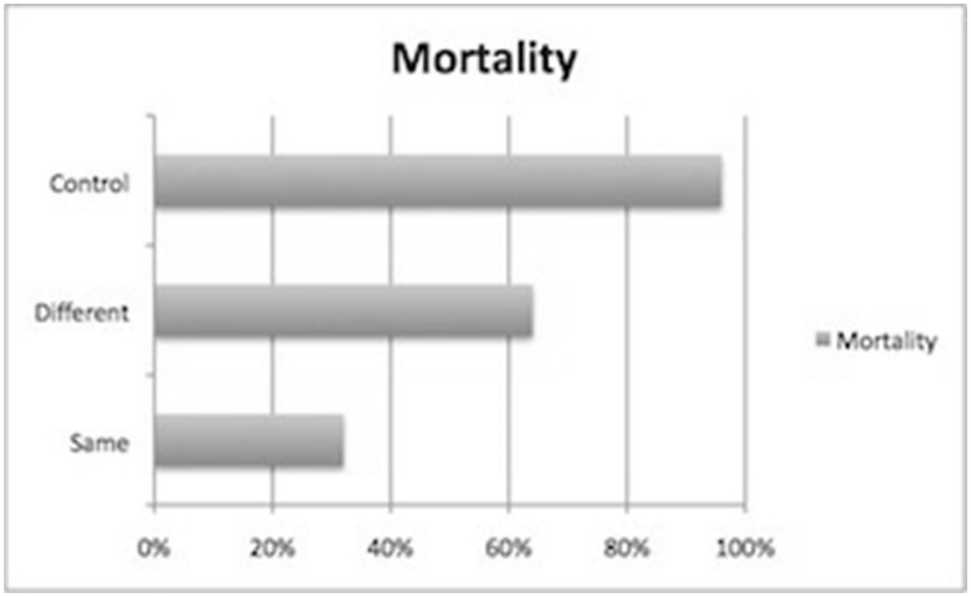


2) Compensatory Conditioning (Primarily Psychological)

- Over the course of conditioning, a CS may elicit physiological CRs that *oppose* the US (*compensatory CRs*). These CSs may include *contextual cues* present during conditioning. Eg., Cytochrome P450
- This contributes to withdrawal symptoms as well as tolerance.
- Siegel et al. (1982) suggested that a <u>failure</u> to elicit such responses might play a part in drug overdose.
  - Phase 1: (Conditioning Trials)
    - Two groups of rats were heroin addicted over 30 days. Three conditions: Same Room, Different Room..
    - Same and Different Room groups got heroin every second day, and a saline infusion on odd days. Saline and heroin were given in different rooms.
  - Phase 2: (Test day).
    - Same Room group: Got a double dose of heroin in the room where heroin was usually delivered.
      Different Room group: Got double dose of heroin where they usually got saline.
      Control group: Never had heroin before but got a double dose.

Results:

Same Room: 32% mortality
Different Room: 64% mortality
Controls : 100% mortality



Note: CS's (cues) for drug use will also frequently trigger cravings and withdrawal symptoms.

DRUGS OF ABUSE

Factors that play a role in cigarette smoking in Canada:

•The prevalence of smoking among adults is higher among Aboriginal than non-Aboriginal people, regardless of whether they live rural or urban environments.

•Smoking is becoming increasingly concentrated among the poorer and less well-educated segments of the population.

DRUGS OF ABUSE - HALLUCINOGENS

Named because of perceptual effects.

Phencyclidine (PCP)

- Angel Dust

Marijuana

- Delta-9-tetrahydrocannabinol (THC)
- Hashish

Inhalants

- DA and GABA effects
  - Solvents
  - Gasoline
  - Glue

THEORETICAL PERSPECTIVES

Biological Perspectives

- Neurotransmitters
  - Dopamine
  - Brain's Reward Centres (Mesolimbic pathway, nucleus acumbens)
- Genetic Factors
  - Addictions tend to run in families
- Alcohol dehydrogenase
  - Ability to metabolize alcohol
  - Flushing, nausea, intoxication at lower doses

THEORETICAL PERSPECTIVES

Learning Perspective

- Operant Conditioning
  - Alcohol & Tension Reduction
  - Negative Reinforcement & Withdrawal
- The Conditioning Model of Cravings
  - Cues for substance use
- Observational Learning

THEORETICAL PERSPECTIVES

Cognitive Perspective

- Outcome Expectancies, Decision Making, & Substance
- Self-Efficacy Expectancies
- Does One Slip Cause People with Substance Abuse or Dependence to Go on Binges?
  - *Abstinence violation effect* (attribution to stable internal factors)
- What You Believe is What You Get
  - Amount consumed is influenced by expectation of alcohol
  - Actual alcohol content didn't matter.

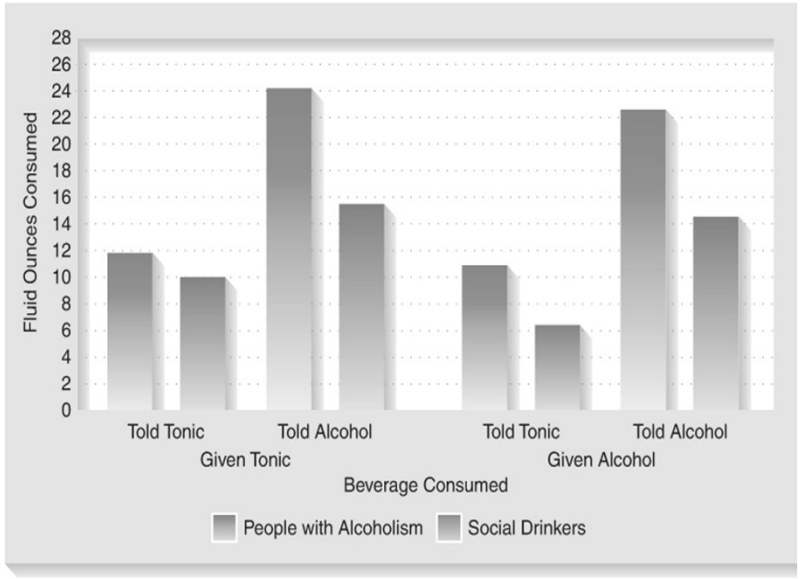


FIGURE 7.3 Must people who develop alcoholism fall off the wagon if they have one drink?

Marlatt & Demming (1973)

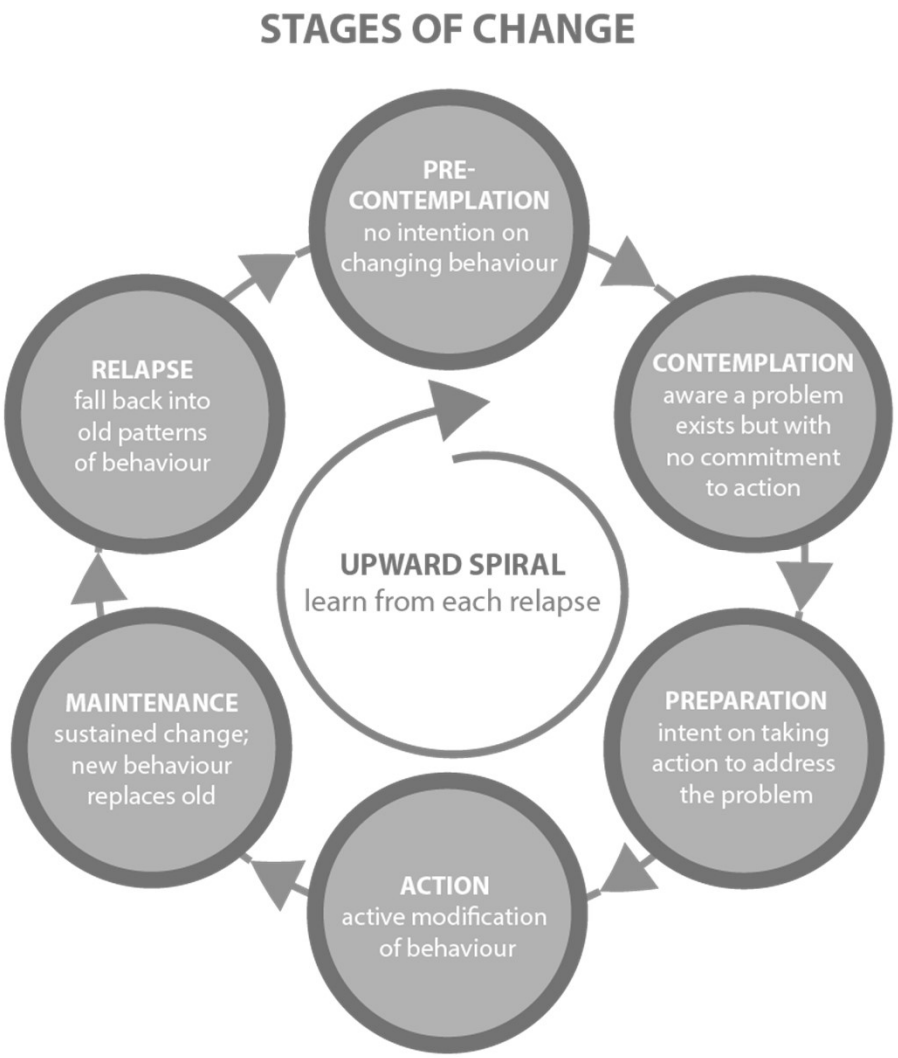
THEORETICAL PERSPECTIVES

Psychodynamic Perspectives

Oral fixation

Sociocultural Perspectives

Both cultural and subcultural (eg., religion)



- Prochaska & DiClemente (1983)
- *Transtheoretical* in nature.
- Has utility in most areas of psychotherapy, not just addictions.
  - Weight loss
  - Motivation
  - Exercise
  - CBT goals
- Has been operationalized in the URICA Scale

TREATMENT

Biological Approaches

- Detoxification
- Disulfiram (Antabuse)
- Antidepressants
- Nicotine Replacement Therapy
- Methadone Maintenance Programs
  - Methadone
- Naloxene & Naltrexone
  - Block the high from opiates
  - Poor long-term compliance

TREATMENT

Nonprofessional Support Groups

- Al-Anon

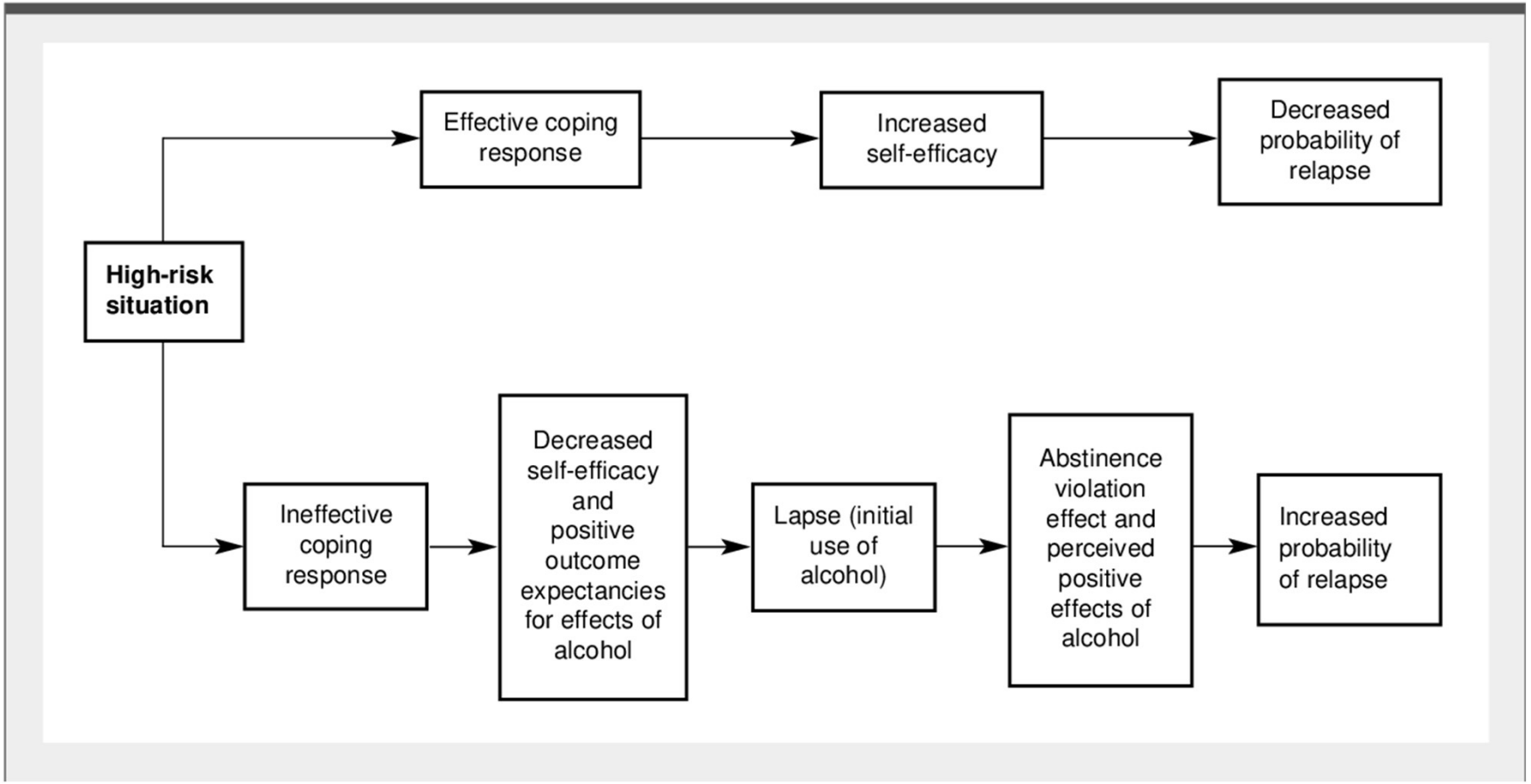
Residential Approaches

Psychodynamic Approaches

Behavioural Approaches

- Self-Control Strategies
- Aversive Conditioning
- Social Skills Training

RELAPSE IS A HUGE ISSUE!



Marlatt & Gordon (1985) Cog Behav Relapse Model

TREATMENT

Relapse-Prevention Training

- Pattern/high risk factor recognition
  - Predictability
  - Behaviours/thoughts/feelings
    - Chains (see next slide)
  - Specific coping strategies
    - Escape/avoidance
  - Weekly “bring-backs”
  - SUDs
  - Abstinence Violation Effect

I got out of Henwood. No drinking for over a month. Needed a place to stay. Brother and and sister-in law offer to take me in until I get settled. Both are heavy drinkers	This is nice of them. I hope I find a place of my own soon. They always have booze. Happy, cautious
We go out for a nice dinner. My brother has 5 beers. Asks me if I want one. I say "no" and reminded him I was driving.	A beer would have been nice, but I'm glad I didn't take it. Relieved, vulnerable.
Two weeks later brother is watching hockey on TV. He tells me some friends are coming over. There's a cooler in the living room and I see he's already been drinking. I leave.	Wow! I wish he'd back off on the drinking. He knows I just got out of rehab. Is he trying to tempt me? Angry, resentful, thinking about beer.
I slept in my car. Returned the next day and the house is a mess. Smell of beer is strong. Brother is fighting with wife. She turns to me and asks when I'm going to move out.	Does she think I made part of this mess?! I wasn't even here. I better look for other accomadations. Hurt, defensive, vulnerable, unwelcome
One week later I have a job interview. I thought it went well until they asked about criminal history. I admit to a couple of DUIs. Interviewer gets very quiet.	This is bullshit! What did I go through rehab for if I can't get a second chance? Mistreated, angry, resentful, desperate, wishing I had a drink.
I call some friends and ask if they could put me up for a while. None say they're willing.	I've helped most of those guys out before. How come they won't do the same for me?! F %^& them! Alone, isolated, craving a drink.

Tried to call me AA sponsor. No answer. left a message. Found a job at grocery store. Met some of my coworkers.

These guys seem alright. Not sure why my sponsor hasn't returned my call though. Soon I'll have some $ for my own place. Happy, confused (about sponsor).

My coworkers tell me they're going to grab a drink after work and invite me to join them. Later that day the boss chews me out for being a little later to work.

Nice to be included! I'll just coffee or soda. I've been dry for a couple of months and have to learn to handle other people drinking. The boss is an idiot.

We wind up at one of my old "watering holes." The bartender asks where I've been and if I'll have my "usual." I just order a Diet Pepsi.

It's good to be back here. See? You can still go to the bar and stay dry. Happy, relieved, feeling some cravings.

Offence
It turns out to be a coworker's birthday. Someone orders a round of shooters for the table. I have one, then several beers.

It would be rude not to toast them on their birthday. I forgot how much I love the feeling and taste I get from drinking! Excited, happy, accepted.

Behaviour after Offence
My brother laughs at me the next morning. I got totally wasted and threw up on the lawn.

I'm such an idiot! Why the hell didn't I just say no?! I'll never kick this habit. I'm a loser. Defeated, sad, frustrated, ashamed.

CONTROLLED DRINKING: Viable option or big mistake?

- Can people with alcoholism be taught to engage in controlled social drinking? Original research done in the 70's.
  - Not encouraging
  - Improper control procedures however

- The contention that people with alcoholism can learn to drink moderately remains controversial.
  - Self-fulfilling prophecies

- Controlled drinking programs may represent one pathway to abstinence for people who would not otherwise enter abstinence-only treatment programs.

HARM REDUCTION

- Whereas most interventions aim to reduce or eliminate substance use entirely, the Harm Reduction approach attempts to mitigate the harmful consequences.
  - Needle exchange programs
  - Methadone programs
  - Designated drivers
  - Restrict use to weekends or other non-workdays

Dr. Gabor Mate

- Gabor Mate: The Power of Addiction