#### Substance Misuse as Behaviour

- The act of taking a psychoactive substance is the end-point of a long causal chain involving complex interactions between social, physiological, behavioural, affective and cognitive processes, and is itself the beginning of other complex chains.
- The act is the outcome of a decision-making process informed by a mercurial blend of past, present and future influences.

#### Behavioural Model of Addiction

- Drinking alcohol and drug-taking are behaviours.
  - Behaviour involves choice.
  - Behaviour is the outcome of a decision.
  - Behaviour is purposive.
  - Behaviour is subject to the laws of learning.

#### Ergo:

Drinking alcohol and drug-taking are learnt behaviours.

"Drinking is natural, whereas inhaling a smouldering vegetable is at some remove from breathing, as is the ingestion of pills from eating, and there is no penetration in nature that resembles that of the needle, except an insect's sting." "A lush can always find a reason if he's thirsty. Listen. If he's happy, he takes a couple of shots to celebrate his happiness. Sad, he needs them to drown his sorrow. Low, to pick him up, excited, to calm him down. Sick, for his health and healthy, it can't hurt him..."

[James Cagney in Come Fill the Cup; screenplay by Ivan Goff & Ben Roberts, 1951]

### Classical Phenomena - I

**Conditioned Tolerance** – habitual use of a drug in a familiar environment leads to tolerance to both the drug and the aspects of the environment that act as CS. Taking the same dose in a novel environment can lead to overdose because tolerance has not developed to these cues.

### Classical Phenomena - II

**Conditioned Withdrawal** – exposure to environments in which withdrawal symptoms have been experienced in the past can elicit withdrawal symptoms at a later stage, even if the person is no longer physically dependent. The cues are both external and internal (e.g., mood states).

# Classical Phenomena - III

Conditioned Drug-opposite Responses – environmental cues can elicit the body's homeostatic mechanisms in anticipation of countering the drug effects, but the absence of drug leads to unpleasant sensations and a consequent desire to use.

# Classical Phenomena - IV

Conditioned Reward – environments associated with pleasurable use can elicit a "low grade" high, creating a desire to use to amplify these feelings.

**Needle Fixation** - the act of injecting can create a high, even if only water is used.

# Operant Phenomenon

Schedule-induced Polydipsia – rats and pigeons will drink vastly increased amounts of water if they are put on a fixed interval schedule of reinforcement which is not contingent on their behaviour. For example, if a food pellet is delivered every minute, the time between successive deliveries is spent drinking water.