

# Introduction of Psychology

## Tutorial 6 Classical Conditioning



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## Schedule

1. Homework assignment
2. Associative learning
  - classical conditioning
  - operant conditioning
3. Types of reinforcement and punishment
  - positive vs negative, reinforcement vs punishment
4. Reinforcement schedule
  - fixed vs variable, ratio vs interval

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## Group Assignment Instruction

1. Please complete the following assignment with your **group project members**.
2. Please hand in the assignment (**PRINTED COPY**) in **Week 7 Tutorial**.
3. The total mark of the group assignment will contribute **20%** of your final grade.
4. **15%** will be given to those showing **application value** while **5%** additional will be given to those with **creative ideas**.
5. Maximum in **TWO A4 pages** (excluding this Instruction page).
6. **Late submission will not be marked.**

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1. The aim of the assignment is to encourage you to **apply** what you have learnt in the lecture to your **daily life**.
2. Try to think of examples in your daily life to explain the following concepts / theories. **Do not** use the examples **quoted** in the lecture or tutorial. You can illustrate your examples by using **figures** and **text description**.

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## Learning Defined

- relatively **permanent change** in an **behavior** due to **experience**  
e.g. social, work, emotion

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## Associative Learning

- Learning that two events occur together
- either two stimuli
  - or a response and its consequences

### Two Kinds of Associative Learning

1. Classical Conditioning
2. Operant Conditioning

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## Classical Conditioning

Two related events:

**Stimulus 1**  
Lightning

+

**Stimulus 2**  
Thunder

We learn to associate two stimuli

Result after repetition

**Stimulus**  
We see lighting


→

**Response**  
We will anticipating thunder


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## Operant Conditioning

Event 1



Event 2



Seal learns to expect a snack for its show-off behavior


Learning to associate two events

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## Classical or Pavlovian Conditioning


Ivan Pavlov

- 1849-1936
- Russian physician / neurophysiologist
- studied digestive secretions
- invented Classical Conditioning



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## Classical or Pavlovian Conditioning




Pavlov's device for recording salivation


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## Pavlov's Classic Experiment


Before Conditioning



During Conditioning



After Conditioning



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## Nausea Conditioning among Cancer Patients

? (drug)

→

(nausea)

(waiting room)

+

(drug)

→

(nausea)

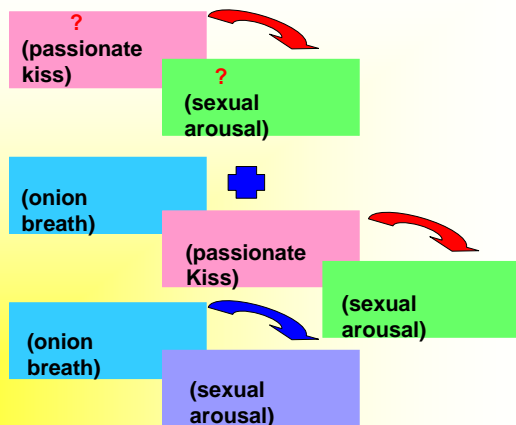
(waiting room)

→

(nausea)

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## Classical or Pavlovian Conditioning



## Classical or Pavlovian Conditioning

### 1. Unconditioned Stimulus (UCS)

- stimulus that automatically triggers a response

### 2. Unconditioned Response (UCR)

- unlearned, automatic response to the unconditioned stimulus
  - salivation when food is in the mouth

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## Classical or Pavlovian Conditioning

### 1. Conditioned Stimulus (CS)

- an originally neutral stimulus that becomes associated with an UCS and therefore triggers a conditioned response

### 2. Conditioned Response (CR)

- learned response to a previously neutral conditioned stimulus

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## Classical or Pavlovian Conditioning

### 1. Acquisition

- the initial stage of learning, during which a response is established and gradually strengthened (smoking, drug, video game, gambling, hen phobia)

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## Classical or Pavlovian Conditioning

### 2. Extinction

- diminishing a conditioned response
- occurs when an unconditioned stimulus does not follow a conditioned stimulus

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## Classical or Pavlovian Conditioning

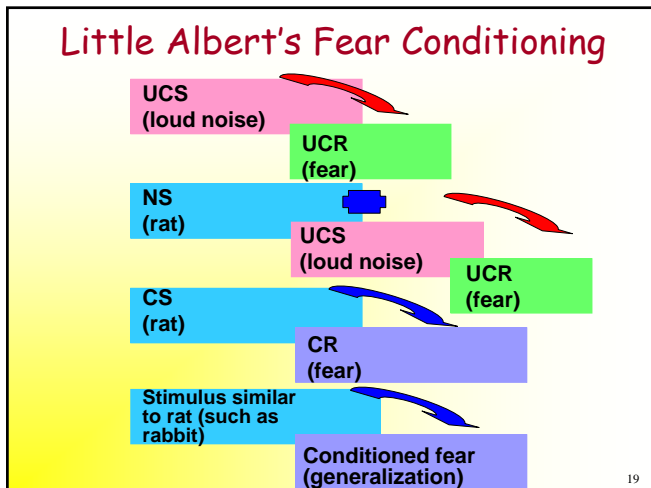
### 3. Spontaneous recovery

- reappearance, after a rest period, of an extinguished conditioned response

### 4. Generalization

- tendency for stimuli similar to the conditioned stimulus to evoke similar responses

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### Operant Conditioning

Behavior (???) → Consequence (???)

Application:

「操作過程 (operant procedure) 對兒童及青少年來說是有有效的治療策略，包括社會增強 (social reinforcement)、活動增強 (activities as reinforcement)、代币增強 (token reinforcement)、團體偶發事件、物質增強 (material reinforcement)」

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### Types of Reinforcement and Punishment

Type	Definition	Effect
Positive reinforcement	Delivery of a <u>pleasant stimulus</u> that follows a behavioral response	↑ the behavior
Negative reinforcement	Removal of an <u>unpleasant stimulus</u> after a behavioral response	↑ the behavior
Positive Punishment	Presentation of an <u>unpleasant stimulus</u> after a behavioral response	↓ the behavior
Negative Punishment	Removal of an <u>unpleasant stimulus</u> after a behavioral response	↓ the behavior

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### Activity- 4 kinds of reinforcement

Determine which kind of reinforcement or punishment is exercised to the following behaviour?

組員每節出席小組活動皆可獲發3張貼紙(\_\_\_\_\_)。唯每次違反小組守則或破壞小組秩序，則會收到1個口頭警告(\_\_\_\_\_)，並記錄在黑板上，當收到3個警告後，則該節最多只能取得1張貼紙(\_\_\_\_\_)。若組員再次積極投入參與小組活動，幫助組員，就能減去黑板上的1個警告(\_\_\_\_\_)。

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### Operant Conditioning— Schedules of Reinforcement

1. Fixed ratio schedule
2. Variable ratio schedule
3. Fixed interval schedule
4. Variable interval schedule

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### Activity - 4 kinds of reinforcement schedules

Determine which kind of reinforcement schedules is applied to the following behaviour?

1. 每月我太太會給外母\$500
2. 每次我探望外母，都會給她\$500
3. 每次探望外母時，我會視乎自己經濟情況而給她零用錢多少，有時\$500，有時800，有時\$1000，有時\$0
4. 某公司不定期會發放花紅給員工

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