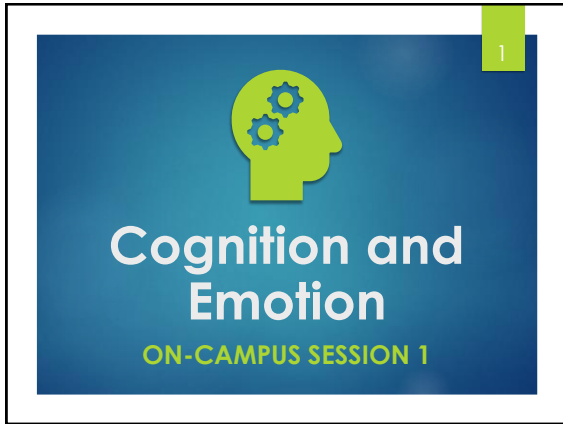
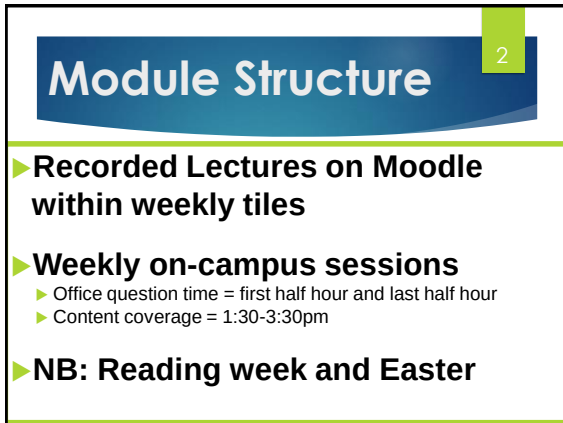
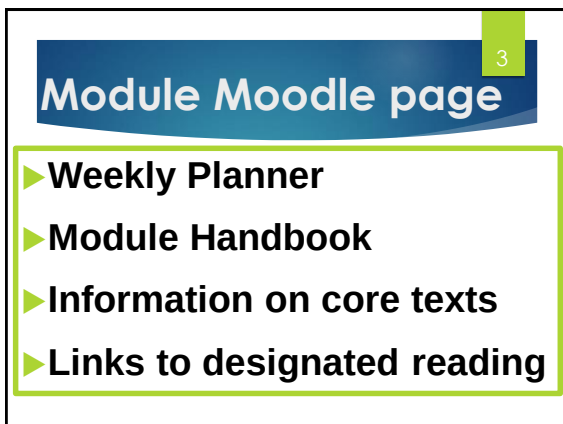




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4

Module Moodle page

- ▶ Lecture Recordings + Slides
- ▶ Seminar Materials
- ▶ Assessment Information
- ▶ Assessment Proformas
- ▶ TurnItIn submission links

4

5

Module Aims

- ▶ Develop an understanding of the scientific study of cognitive processes.
- ▶ Develop an understanding of the biological bases of human behaviour.
- ▶ Introduce a range of key theoretical and methodological issues in the area of cognition and emotion.

5

6

Learning Outcomes

- ▶ Upon successful completion of the module students should be able to:
 - ▶ Describe some of the main conceptual, historical and methodological approaches in cognitive psychology;
 - ▶ Explain core themes and concepts in the area of cognition and emotion;

6

7

Learning Outcomes

- ▶ Demonstrate understanding of how the integration of multiple perspectives within cognition and emotion can help explain human behaviour;
- ▶ Take responsibility for own learning and skill development; including effective personal planning, self-reflection and project management skills.

7

8

Core Texts

Eysenck, M. W., & Keane, M. T. (2020). Cognitive psychology: A student's handbook (8th ed.). Psychology Press.
Library Catalogue Number: 153 EYS. [Also, as E-book.](#)

Power, M., & Dalgleish, T. (2016). Cognition and emotion: From order to disorder. Psychology Press.
Library Catalogue Number: 152.4. POW [Also, as E-book.](#)

8

9

Module Assessments

Assessment One:

- 1 x 2,000-word essay: 50% of total module mark.
- Question and submission details provided in assessment proforma on Moodle.

Assessment Two:

- 1 x Exam: 50% of overall module mark
- Two written essay-style exam answers from a choice of four questions.

9

Module Content

- ▶ Content covered during on-campus sessions will apply to the exam
- ▶ On-campus sessions add to knowledge gained from lecture recordings but will also help further your understanding
- ▶ Will include discussion and interactive tasks

10

Run through Module on Moodle



11

Session 1: What is Cognitive Psychology and examples of classic cognitive experimental studies



12

The Location of Thought?

13

Discussion Question: where in the brain does thought take place?



- ▶ Daniel Dennett: Consciousness is result of processes over a period of time in different parts of the brain.
 - ▶ There are multiple processing sites and streams not a single privileged one of consciousness.
 - ▶ Info in any one of the many processing streams may enter conscious awareness depending on the task.

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The Location of Thought?

14

- ▶ Damasio: not enough to study the brain, we must consider whole body.
- ▶ If rationality cannot be understood by studying the brain, we need to understand how feelings are generated in the body during our process of thinking.



14

Embodied cognition

- ▶ Importance of recognising brain, body and environment in the psychological.
- ▶ Perception and cognition are for control of action, not just gaining knowledge.
- ▶ Perception and cognition are forms of action, and types of behaviour performed on the environment.

15

15

Embodied cognition

16

► Gibson: Affordance of action

- We perceive objects not in abstract mathematical or geometrical term but in terms of the actions that they support (afford).

E.g., instead of thinking “that stream looks about 1m wide” you would think in terms of judging whether you could jump over it.



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Embodied Cognition

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- Too much of psychology focused on knowing ‘that something’, at expense of knowing ‘how something’,

E.g., disembodied brain could not ride a bike.

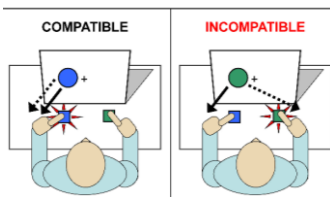


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Classic Cognitive Experimental research

18

- **Simon Effect:** press key to indicate colour of circle.
- Findings: Faster when appropriate key is same side as circle.



18

Classic Cognitive Experimental research

19

- **Flanker Task:** press key to indicate direction or letter type
 - Findings: Faster if target surrounded by distracting letters associated with same response, as opposed to distractors associated with different response
 - Shows we cannot help but process irrelevant information.

L L L R L L L
 R R R L R R R
 < < < > < < <
 > > > < > > >

Incongruent

L L L L L L L
 R R R R R R R
 < < < < < < <
 > > > > > > >

congruent

19

Classic Cognitive Experimental research

20

- **Priming/cueing:** press key to left- or right- target. Preceding arrows (prime or cue) gave warning of target direction:
 - Findings: Congruent primes = faster performance, incongruent primes slowed performance.
 - "Masked" primes (subliminal), reversed the effect (incongruent primes led to faster response)
 - Shows how information not consciously perceived affects behaviour

	Cue	Target
Valid Trial		
Invalid Trial		
Neutral Trial		

20

Classic Cognitive Experimental research

21

- **Serial Position Effect:** Let's have a go at this study now...
- On the following slides you will be shown a series of words.
- Read each word (quietly to yourself in your head) and try to remember as many of the words as you can.
- Ready.....

21

Guillotine

22

Whale

23

Clock

24

Guitar

25

Bottle

26

Pillow

27

Orange

28

Hat

29

Cushion

30

Shower

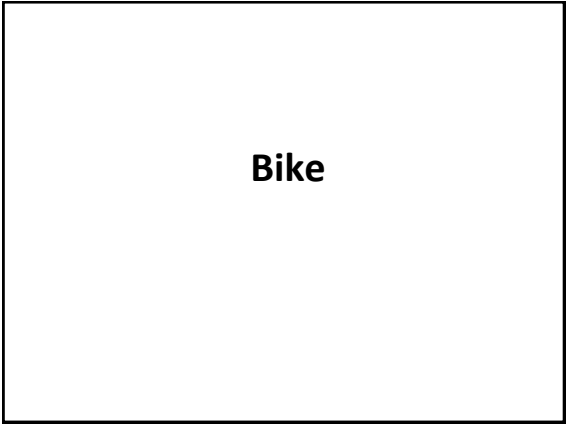
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Calculator

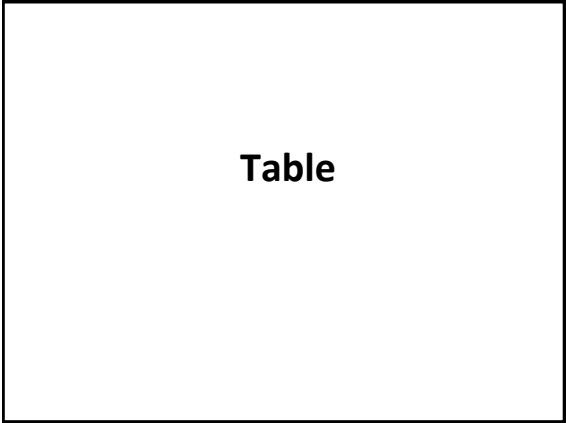
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Mouse

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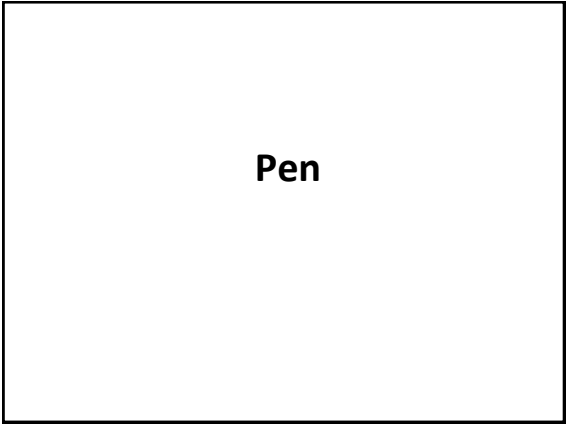
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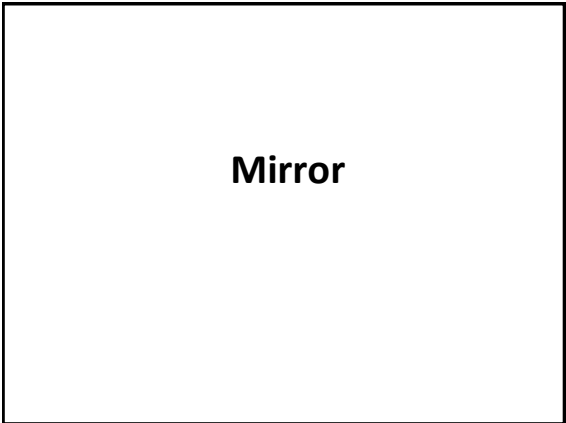
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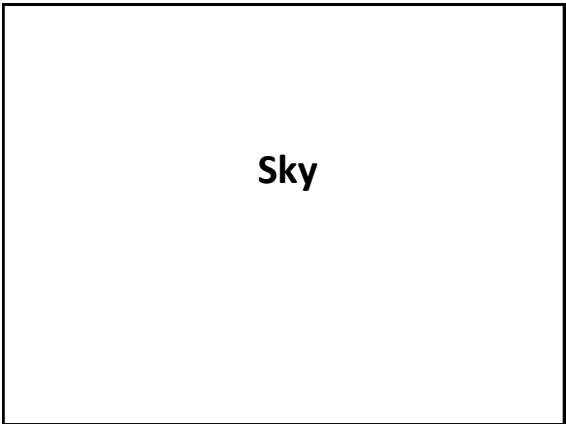
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37



38



39

Oven

40

Box

41

Classic Cognitive Experimental research

42

- ▶ You now have 30 seconds to write down as many of the words as you can remember.
- ▶ Have you noticed anything about the words you remembered?

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Classic Cognitive Experimental research

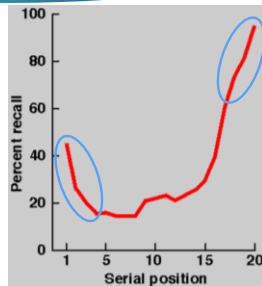
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► Serial Position Effect:

Better memory for words at beginning and end of list.

Murdock (1962):

- **Primacy:** Due to rehearsal, words at beginning of list are transferred to LTM.
- **Recency:** Words at the end of the list are still available in STM.



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Primacy Effect

- Can be affected by:
- Presentation Rate: Fast=less rehearsal; Slow=more rehearsal
- Word Frequency: Rare-long rehearsal; common-less rehearsal
- Inter-item relatedness: similar = better; different = harder
- List Length: longer = less rehearsal; shorter = more rehearsal

RECENCY EFFECT

- Can be affected by:
- Delaying recall by 10 seconds/introducing a distraction (Glanzer & Cunitz, 1966)
- Anything requiring concentration directly following the end of task.

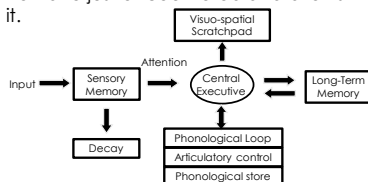
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Classic Cognitive Experimental research

45

► Working Memory

- Multiple sub-systems within STM, seen as set of processes rather than static unitary structure
- Acts on material we have just encountered and allows us to manipulate it.



(Baddeley & Hitch, 1974;
Baddeley, 1986; 2000)

45

How many windows are there where you live?



- ▶ To set up and manipulate the image we need the...
 - ▶ Visuo-spatial scratchpad
- ▶ To sub-vocally count the number of windows we need the...
 - ▶ Phonological loop
 - ▶ Articulatory Control for the inner voice
 - ▶ Phonological store to remember sound
- ▶ To organise the whole operation we need the...
 - ▶ Central executive

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Classic Cognitive Experimental research

47

- ▶ **Spacing Effect:** words presented in sequence.
 - ▶ Some words shown many times in quick succession "massing"
 - ▶ Repetition of other words spread out with other words appearing in-between ("spacing").
 - ▶ Findings: superior memory for spaced than massed words
 - ▶ Has important implications for learning and study.

47

Classic Cognitive Experimental research

48

- ▶ **False Memories:** sequences of words of related meaning.
 - ▶ E.g., 'sour, sugar, honey, treat'
 - ▶ What other word comes to mind?
 - ▶ Mistakenly say new word of similar meaning (e.g., 'Sweet') was present than new word with meaning unrelated to the earlier list.
 - ▶ Demonstrates fallibility of memory and how easy we feel we have experienced something when not.

48

Classic Cognitive Experimental research

49

► Associative Priming:

- Indicate if target words are real words or non-words.
- Findings: Faster to identify target real words if preceded by a word ("prime") of related meaning
- Consistent with the idea that activation spreads through networks of related information in the mind.

Valid Trial

CAR
HOUSE
TABLE
NURSE

Valid Trial (Priming)

TABLE
NURSE
DOCTOR
HOUSE

Invalid Trial

BSDLW
TNEUP
RETCA
EHRTO

49

Classic Cognitive Experimental research

50

► Repetition Priming:

- Indicate if words on lists were real or non-words, with some of the lists being repeated.
- Findings: Faster to make judgments when re-tested on a word shown earlier
- Effect more pronounced for less common words
- Shows interesting interaction between STM (based on a recent encounter of a word) and LTM (based on how common the word is).

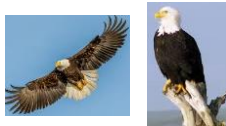
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Classic Cognitive Experimental research

51

► Shape simulation:

- Pairs of sentences and pictures shown
- State if object presented had featured in preceding sentence.
- Findings: Faster correct response to picture-sentence matches when orientation of object was similar
- E.g., "The ranger saw the eagle in the sky" followed by image of flying eagle as opposed to perched eagle.
- Shows how we automatically represent visual images implied by sentences.



51

Classic Cognitive Experimental research

52

► Stroop task (Stroop, 1935):

- Examines competition between a colour word and the colour of print a word is presented.
- Let's do a quick experiment:
- On the next slide you will be presented with a list of words in columns all on one slide.
- Your task is to read out aloud the colour of the print each of these words are presented in (not the word itself).
- Read down each column as quickly as you can.

52

Green	Red	Orange
Black	Green	Blue
Red	Orange	Purple
Purple	Black	Green
Orange	Blue	Black
Blue	Purple	Red

53

► Let's do that again, with a different set of stimuli.

► Remember: read out aloud the colour of the ink the word is printed in and not the word itself

► Ready.....

54

Green	Red	Orange
Black	Green	Blue
Red	Orange	Purple
Purple	Black	Green
Orange	Blue	Black
Blue	Purple	Red

55

56

Classic Cognitive Experimental research

- ▶ Stroop findings:
- ▶ Response times are slower and more errors made when colour of ink and word colour are incongruent (do not match)
- ▶ Shows that reading involves an automatic process, resulting in cognitive interference

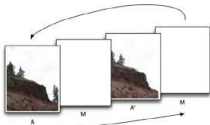
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Classic Cognitive Experimental research

- ▶ **Change Blindness:** Perceptual phenomenon where observer does not notice change in visual stimulus.
 - ▶ Often these undetected changes can be quite large.
 - ▶ Can be examined through flicker paradigm.

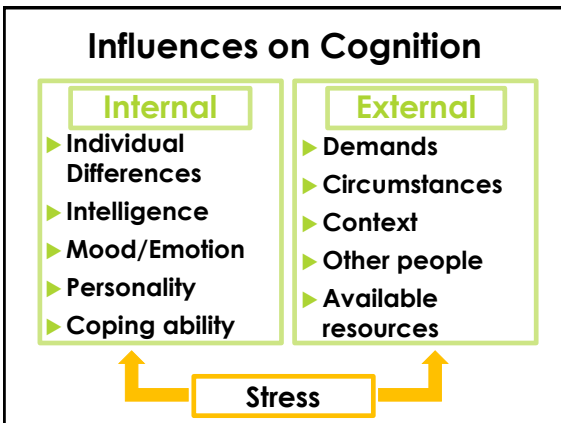
Where a difference occurs in an image whilst it flickers between two versions of the image



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58



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Have a go at some Cognitive Psychology Experiments online

▶ [Psytoolkit](#)

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