

# DP IB Psychology: SL

## Cognitive Schema

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## Schema Theory

# Schema Theory

## What is a schema?

- A **schema** is a **mental representation** of something i.e. a schema for concrete, tangible things such as 'cat', 'house', 'mother' or for abstract ideas/concepts such as 'freedom', 'jealousy', 'love'
- A schema holds all of the information that an individual has **assimilated** over the course of their life so far, obtained via direct personal experience e.g. going to school or via the media e.g. watching a TV series about school life or via contact with others e.g. parents telling you about their experience of school
- There are **frame** schemas which include the details and **characteristics** of an item or person or object e.g. 'cat', 'house', 'mother'
- There are **script** schemas which include the **sequences** and expectations as to what will be involved in an event or experience e.g. going to school involves taking the bus, chatting with friends at break, being in lessons, hearing the bell sound, being set homework etc.
- A schema can be **adapted** according to experience e.g. if you meet someone who has been home-schooled then your 'school' schema will **accommodate** this new information i.e. some people don't actually go to a school for their schooling but instead they learn at home
- A person's schemas are not right or wrong, they are simply the product of assimilation and thus are **subjective** – people's schemas may overlap but they will not be identical as each schema is built on individual experience

## What is the relevance of schema and memory?

- A schema is a set of pre-existing ideas, beliefs and concepts an individual has about people, places, events, ideas etc. which means that schemas may give rise to **distorted memory**
- When you experience an event either directly or indirectly it is usual for **schematic activation** to guide your understanding/expectation of that event e.g. you plan a holiday to Italy where you expect to see a lot of people waving their arms around in an excitable way and eating pasta (not at the same time of course!) hence schemas also contribute to **stereotypes**
- The problem with having set and pre-determined schemas is that they can **interfere** with accurate **recall** – this happens when someone recalls an event not as it truly happened but as a result of **schematic interference** i.e. their schemas 'got in the way' of 100% accurate recall of the event (generally people are unaware of this happening)
- Schemas are relevant to **reconstructive memory** (which is dealt with as a separate Revision Note on this site) as they produce **biased** recall e.g. you are in a pub and there is a fight, the police ask you what

you witnessed and you say that one man was bleeding but in fact this is not true – your schema for ‘fight’ added blood at the scene because it fits your schema for ‘fight’

- **Cultural schemas** may lead to incorrect and faulty recall of material which does not align with or fit into a person’s schema based on their own culture

## What are Early Maladaptive Schemas?

- An **Early Maladaptive Schema (EMS)** is a type of **self-schema** in which a person’s early, childhood experience forms the basis for their **self-image**, **self-esteem** and general well-being
- An EMS may develop if a child is abused, neglected or placed into situations which are distressing and/or unpredictable
- An EMS is stable – which means it is resistant to change – and consists of long-term beliefs about the self which are very difficult to eradicate, even if the person undergoes years of **therapy** or **counselling**
- An EMS may well lead to the development of a **mental disorder** such as **Major Depressive Disorder (MDD)** or **anxiety disorders**
- Types of EMS include:
  - **Abandonment** (which develops if someone feels that their caregivers are unreliable and/or cold and unloving);
  - **Defectiveness** (which develops if someone has been told that they are not worthy of love, that they are bad, that people will reject them) and
  - **Failure to Achieve** (which develops if someone believes that they are doomed to always fail and that others are better than them)

## Which research studies investigate schema theory?

- **Bartlett (1932)** – cultural schemas produce distorted recall of a culturally unfamiliar story
- **Riso et al. (2006)** – found that EMS are stable and long-lasting and so should be treated using suitable therapy

*Bartlett (1932) and Riso et al. (2006) are available as separate Key Studies – just navigate the Cognitive Processing section of this topic to find it (Two Key Studies of Schema Theory).*

*Bartlett's study is also included in Two Key Studies of Reconstructive Memory which can be found in the Reliability of Cognitive Processes section of this site.*



### Worked Example

SAQ – Short Answer Question – 9 marks

*Describe one study of schema theory. [9]*

The command term 'Describe' requires you to go into some study detail. Here are some paragraphs that describe the results of a schema theory study:

Bartlett found that the British participants tended to change the Native American story to suit their own cultural schemas. For example; levelling took place which could be seen in the shortening of the story (the original story was approximately 350 words and the participants' version was around 180 words). They also tended to omit details which were irregular to their schema e.g. no mention of the supernatural elements of the story, even missing out the key focus of ghosts fighting.

Sharpening also occurred, where participants omitted cultural points e.g. place names were simply ignored, and assimilation occurred when participants changed words to suit their own schema – instead of recalling the word 'canoe', the participants would recall the word 'boat'; 'paddling' was recalled as 'rowing'.

Assimilation also occurred where the story was altered to suit the participants' schema. For example, the recalled story would follow a more traditionally Western narrative format. Bartlett concluded that people do not record events or stories like a camera but instead they take information in and distort it to fit their schema, omitting details, changing anything that is not consistent with their pre-existing schema.

## Two Key Studies on Schema Theory: Bartlett (1932) & Riso et al. (2006)

### Key Study: Bartlett (1932)

**Aim:** To investigate the effect of cultural schemas on recall of a culturally unfamiliar story

**Participants:** 20 male undergraduate students from the University of Cambridge in the UK

**Procedure:** Bartlett instigated a procedure known as **serial reproduction**, in which one participant read the story then reproduced it in writing; this was then read to a second person who then wrote his own memory of the story which was then read to a third person who then produced his own version of the story and so on.

**Results:** Bartlett found that the resulting stories bore little similarity to the original Native American folk tale. The changes made by the participants included:

- **Omission:** Key details of the story were ignored or missed out, particularly unfamiliar or unpleasant details such as a contorted face or black coming out of a mouth. Participants even omitted the key idea that ghosts were fighting which is surprising as this is the title of the story. Ghosts were soon dropped from the re-telling of the story as they do not fit with the way that adult males see the world, particularly in relation to war; details such as a contorted face were omitted as they may have caused unpleasant memories.
- **Assimilation and sharpening:** Story details were changed to suit the participants' own cultural schemas e.g. 'canoes' became 'boats'; 'paddling' became 'rowing'. Details such as the spirit wound were re-interpreted as a flesh wound with words such as 'therefore' and 'because' inserted to explain the events.
- **Levelling:** The story became shorter - the original story was approximately 350 words and the participants' version was around 180 words

**Conclusion:** Cultural schemas contribute to the **reconstructive** nature of memory i.e. memory is not a passive state in which events are recorded like a camera would record them, instead memory is an active process in which pre-existing information and expectations may interfere with the accuracy and **reliability** of the memory

### Evaluation of Bartlett (1932)

#### Strengths

- Bartlett's study was one of the first pieces of research to highlight the role of schema in reconstructive memory e.g. two people who witness the same event may give very different accounts of what they have seen

- Bartlett's procedure (serial reproduction) is **replicable** which means that it could be repeated to check for **reliability**

#### Limitations

- This is very dated research: university students in the UK are much more aware of wider **multi-cultural issues** today than they were in the 1930s which means that the results may lack **temporal validity**
- Bartlett's sample was small and limited to an elite **demographic** of university students who were all male which makes the findings difficult to **generalise**

#### Key terms:

- **Cultural schemas**
- **Serial reproduction**
- **Reconstructive memory**

## Key Study: Riso et al. (2006)

**Aim:** To investigate the **long-term stability** of EMS over a 2.5 to 5 year interval

**Participants:** 55 outpatients with major depressive disorder (MDD) 43 females, 12 males, 90% **Caucasian**

**Procedure:** EMS were assessed with the **Young Schema Questionnaire** (YSQ) of 16 maladaptive schemas, including the following:

- **Emotional deprivation** - 'People have not been there to meet my emotional needs'
- **Failure to achieve** - 'Most other people are more capable than I am in areas of work and achievement'
- **Vulnerability to harm** - 'I can't seem to escape the feeling that something bad is about to happen'
- **Subjugation** - 'I feel that I have no choice but to give in to other peoples' wishes, or else they will retaliate or reject me in some way'

**Results:** 75% of participants showed evidence of EMS. Participants **in remission** were less affected by EMS than others

**Conclusion:** EMS are stable over time for those with depression

#### Evaluation of Riso et al. (2006)

##### Strengths

- The findings have good **application**: they could be used to inform **therapy/interventions** for people at risk of depression
- **Triangulation of data** was obtained through the use of multiple questionnaires to measure levels of depression and **mood**, EMS, and other key **variables** which increases the **reliability** of the findings

##### Weaknesses

- **Quantitative** data only was collected but to understand the complexities of depression it would have been better to include **qualitative** methods as well
- The participants had **chronic** depression so the results cannot be generalised to people with other mental disorders, or to those who suffer from less chronic depression

**Key terms:**

- **Early Maladaptive Schemas**
- **Major Depressive Disorder**
- **Triangulation**