

## Flying Start IB Psychology (Year 1): Cognitive Psychology & Eyewitness testimony

### 1. Watch the 4 BBC Eye-Witness videos:

[https://www.youtube.com/user/MrMottad/playlists?shelf\\_id=0&view=1&sort=dd](https://www.youtube.com/user/MrMottad/playlists?shelf_id=0&view=1&sort=dd)

2. Read a summary of the article: Loftus, E. F., & Palmer, J. C. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning & Verbal Behavior*, 13(5), 585-589.

### Background:

- Memory involves interpreting what is seen or heard, recording bits of it and then reconstructing these bits into memories when required.
- This infers recall can be distorted or biased by certain features of the situation.
- Loftus and Palmer conducted many studies investigating ways in which memory can be distorted, many of which show that EWT is highly unreliable because it can be influenced by such things as subtle differences in the wording of questions.
- This study focuses on the effects of 'leading questions' on an individual's ability to accurately remember events.
- The expectation was that any information subtly introduced after the event through leading questions – questions phrased in a way suggesting the expected answer – would distort the original memory.

### Aim:

The aim of this study was to investigate how information supplied after an event, influences a witness's memory for that event.

### Experiment 1:

#### Method:

- This was a laboratory experiment using an independent measures design.
- The independent variable (IV) was the wording of a critical question hidden in a questionnaire.
- This question asked, "**About how fast were the cars going when they hit / smashed / collided / contacted / bumped each other?**"
- The dependent variable (DV) was the estimated speed given by the participant.

**Sample:** 45 students were divided into five groups with nine participants in each group.

#### Procedure:

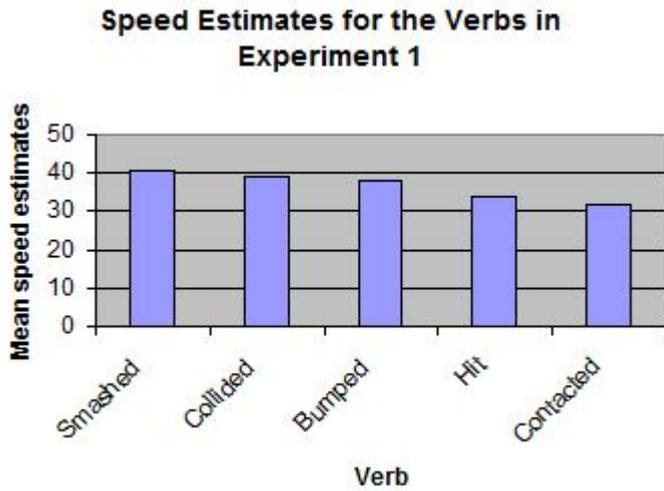
- All participants were shown the same seven film clips of different traffic accidents which were originally made as part of a driver safety film.
- After each clip participants were given a questionnaire which asked them firstly to describe the accident and then answer a series of questions about the accident.
- There was one critical question in the questionnaire: "**About how fast were the cars going when they hit each other?**"
- One group was given this question while the other four groups were given the verbs "**smashed**", "**collided**", "**contacted**" or "**bumped**", instead of "**hit**".

#### Results of the first experiment:

Table 1. Speed estimates for the verbs used in the estimation of speed question

Verb	Mean estimate of speed (mph)
Smashed	40.8
Collided	39.3
Bumped	38.1
Hit	34.0

The results in table 1 show that the **phrasing of the question brought about a change in speed estimate. With smashed eliciting a higher speed estimate than contacted.**



Experiment 2:

**Method:**

- This was also a laboratory experiment using an independent measures design.
- The independent variable (IV) was the wording on a question in a questionnaire:
- One group was asked, **“About how fast were the cars going when they smashed into each other?”**
- A second group was asked, **“About how fast were the cars going when they hit each other?”**
- A third group was not asked about speed.
- One week later, all participants were asked to complete another questionnaire which contained the critical question, **“Did you see any broken glass?”**
- The dependent variable (DV) was whether the answer to this question was, **“Yes/No.”**

**Sample:** 150 students were divided into three groups with 50 participants in each group

**Procedure:**

- All participants were shown a one-minute film which contained a four-second multiple car crash.
- They were then given a questionnaire which asked them to describe the accident and answer a set of questions about the incident.
- There was a critical question about speed:
- One group was asked, **“About how fast were the cars going when they smashed into each other?”**
- Another group was asked, **“About how fast were the cars going when they hit each other?”**
- The third group did not have a question about vehicular speed.
- One week later, all participants, without seeing the film again, completed another questionnaire about the accident which contained the further critical question, **“Did you see any broken glass – Yes/No?”** There had been no broken glass in the original film.

**Results of the second experiment:**

Table 2. Response to the question 'Did you see any broken glass?'

Response	Smashed	Hit	Control
Yes	16	7	6
No	34	43	44

These results show that the **verb (smashed) in the question did have a significant effect on the mis-perception of glass in the film.** Those participants that heard the word 'smashed' were more than twice as likely to recall seeing broken glass.

### Conclusions:

- The verb used in a question influences a participant's response i.e. the way a question is phrased influences the answer given.
- People are not very good at judging vehicular speed.
- Misleading post event information can distort an individual's memory.
- It is proposed that two kinds of information go into our memory for a 'complex occurrence' such as this.
- Firstly, the information gleaned during the perception of the original event. Secondly, the post-event information that is gained after the fact. Information from the two sources will integrate over time and we will be unable to decipher which source the information comes from.
- We are therefore unable to tell whether our memory is accurate.

### Explanation of results

- To account for the results of the second experiment, Loftus and Palmer developed the following explanation called the reconstructive hypothesis:
- They argue that **two kinds of information go into a person's memory of an event**.
- The first is the information obtained from **perceiving an event** (e.g. witnessing a video of a car accident), and the second is the other **information supplied to us after the event** (e.g. the question containing hit or smashed). Over time, the information from these two sources may be **integrated** in such a way that we are unable to tell from which source some specific detail is recalled. **All we have is one 'memory'**.
- For example in Loftus and Palmer's second experiment, the participants first form some memory of the video they have witnessed. The experimenter then, while asking, "About how fast were the cars going when they smashed into each other?" supplies a piece of external information, namely, that the cars did indeed smash into each other. When these two pieces of information are integrated, the participant has a memory of an accident that was more severe than in fact it was. Since broken glass corresponds to a severe accident, the participant is more likely to think that broken glass was present.

### Evaluation of Explanation

- One way in which we could criticise this argument is to recognise that it is not only the type of question asked but also many other factors which could influence your memory of an event.
- Other factors which include food, alcohol, emotions, environment, who you were with, what the event meant to you, and so forth.
- Some psychologists have made a further criticism of the argument. They do not agree with Loftus that post event information changes the witness's original memory, never to be retrieved again.
- They suggest that witnesses merely follow the questioner's suggestions, leaving the original memory intact for retrieval under appropriate conditions.
- The main strength of Loftus' argument is its wider implications. Based on evidence like that of Loftus's, the Devlin Report (1976) recommended that the trial judge be required to instruct the jury that it is not safe to convict on a single eyewitness testimony alone, except in exceptional circumstances or when there is substantial corroborative evidence.
- Loftus's reconstructive hypothesis has also meant that the police and lawyers are urged to use as few leading questions as possible (i.e. questions suggesting to the witness the desired answer), although in reality this practice is still widely carried out.

### 3. Watch the following TED Talk:

[https://www.ted.com/talks/elizabeth\\_loftus\\_the\\_fiction\\_of\\_memory?language=en](https://www.ted.com/talks/elizabeth_loftus_the_fiction_of_memory?language=en)

Make some brief notes:

#### 4. In Psychology you will need to read original Psychological journal articles.

**Read the following study:** Loftus, E. F., Loftus, G. R., & Messo, J. (1987). Some facts about "weapon focus." *Law and Human Behavior*, 11(1), 55-62.

<https://faculty.washington.edu/gloftus/Downloads/LoftusLoftusMessoWF.pdf>

#### Here is a brief summary:

**Weapon focus** refers to the concentration of a witness's attention on a weapon which results in them having difficulty recalling other details of the scene and identifying the perpetrator of the crime.

Previous research carried out has shown that people fixate their gaze for longer, faster and more often on unusual or highly informative objects.

<b>Aim:</b> To provide support for the Weapons focus effect when witnessing a crime.
<b>Method:</b> Laboratory experiment
<b>Participants &amp; Details:</b> The participants were 36 students from the University of Washington aged 18-31, half were recruited via advertisements and paid \$3.50, the others were psychology students participating for extra credits. All participants were shown 18 slides of a series of events in a Taco Time restaurant. For both groups the slide was the same except for one slide. This slide was the independent variable. In the control group the second person in the queue hands the cashier a cheque, in the experimental group the same person pulls a gun on the cashier. The dependent variable was recognition of that person; it was measured by a twenty item multiple choice questionnaire. Participants were also show 12 photos in random sequence and asked to rate how confident they were of their identification on a scale of 1-6 (1 = guess, 6 = very sure).
<b>Results:</b> Answers to the questionnaire about the slide show showed no significant difference between the two groups. In the control condition (cheque) 38.9% made a correct identification, in the experimental condition (gun) it was only 11.1%. Eye fixation data showed an average fixation time of 3.72 seconds on the gun, compared to 2.44 seconds on the cheque.
<b>Conclusions:</b> The participants spent longer looking at the weapon and therefore had more difficulty in picking the suspect from the line-up.

#### Your first graded IB Psychology assessment:

Using the four sources of information answer, the following question in 500-700 words (and bring to the first lesson).

***'To what extent is eye-witness testimony reliable?'***

#### Course Information:

- **IB Assessments are graded 0-7 (7 =highest)**
- **You will use a fantastic online textbook, which requires a small one-time payment which we will collect in the first half-term. Although you won't have access to the full site yet, please take a look <https://www.thinkib.net/psychology>**