Methodology and procedures (Note: more detail can be found in the WJEC summary of this research.)

The methodology used was an experiment conducted in a laboratory. Both experiment 1 and experiment 2 used an independent measures design. The independent variable was the verb used (in both experiments) and the DV was estimate of speed (experiment 1) and whether the participants saw broken glass (experiment 2). There were 45 students in experiment 1 and 150 students in experiment 2.

Experiment 1

Participants were shown seven films of traffic accidents. They were then asked to ‘give an account of the accident you have just seen’. They then answered more specific questions about the video, the critical question was: ‘about how fast were the cars going when they _____ each other?’. The space was filled by one of five verbs. Nine participants had the verb smashed. For the other groups the blank was filled with either hit, collided, bumped, or contacted. The participants speed estimate was recorded.

Experiment 2

150 participants were shown one clip of a multiple car crash. After watching the video, the participants were asked to describe the accident. They were then asked about the speed of the cars. 50 participants were asked ‘How fast were the cars going when they smashed into each other?’. Another 50 participants were asked the same question but with the word hit replacing the word smashed. The final 50 were not asked about the speed of the cars. 1 week later, the participants were asked questions about the accident. The critical question was ‘Did you see any broken glass?’ There was NO broken glass in the video clip.

Findings

Experiment 1: table shows mean speed estimates for each verb.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Mean Estimate (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smashed</td>
<td>40.8</td>
</tr>
<tr>
<td>Collided</td>
<td>39.3</td>
</tr>
<tr>
<td>Bumped</td>
<td>38.1</td>
</tr>
<tr>
<td>Hit</td>
<td>34.0</td>
</tr>
<tr>
<td>Contacted</td>
<td>31.8</td>
</tr>
</tbody>
</table>

Experiment 2: table shows response to ‘Did you see any broken glass?’

<table>
<thead>
<tr>
<th>Response</th>
<th>Smashed</th>
<th>Hit</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>16</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>34</td>
<td>43</td>
<td>44</td>
</tr>
</tbody>
</table>
**Evaluation**

**Ethical issues**

**Deception**
Participants were deceived during the study. For example, participants were asked deliberately leading questions in order to test their memory.

**Consent**
Participants did not give fully informed consent. The participants were not fully aware of the aims of the research.

**Social implications**

**Benefits for society**
Loftus and Palmer's research has led to new developments in questioning techniques used by the police. The police are now more aware of the effect of the questions that they ask.

**Methodology and procedures**

**Sample issue**
The sample is only students. They are, therefore, likely to share many characteristics, e.g. lack of driving experience.

**Benefits for society**
Unreliable eyewitness testimony is costly both economically and costly to society. Retrials and compensation mean that governments have to spend a lot of money as a result of unreliable eyewitnesses. If individuals are wrongfully convicted, it also means that the real criminal is still in society and may go on to commit more crimes.

**Reliable research**
Participants all watched the same videos, were asked the same questions (with small differences) and overall, the procedure was very standardised. This means that all participants had a consistent experience.

**Lack of ecological validity**
Participants watched staged video clips of accidents rather than real accidents. This may have changed the participants reaction to the stimuli. Would they respond differently if they witnessed a real accident?

**Good control of extraneous variables**
The order of the seven clips were changed for the participants. So, some participants may have watched video 1 first, whereas others would have seen it last. This should prevent the order having an impact on the results.

**Conclusions**

Loftus and Palmer concluded two possible interpretations for experiment 1. The first was response-bias factors and the second was a change in the subject's memory representation of the accident. To test both conclusions Loftus and Palmer conducted experiment 2. The one-week gap between watching the video clip and being asked the critical question allowed Loftus and Palmer to reach a clear conclusion. Experiment 2 suggests that the leading question (the verb smashed being used when interrogated about speed) alters the participants memory. Therefore, it is not a response bias but an altering of the participants memory. The leading question (the verb used) is combined with the original memory of the accident to create a new memory. This new memory has the cars going faster and so explains why more people said yes when asked about broken glass in the smashed condition.