

EYEWITNESS TESTIMONY (2) - THE EFFECTS OF ANXIETY ON THE ACCURACY OF EYEWITNESS TESTIMONY

How does anxiety affect the accuracy of EWT?

There are many studies looking at the effects of anxiety on EWT. Some of them have shown that anxiety can **impair** the accuracy of EWT. For example, **Loftus & Burns (1982)** showed one group of participants a film of a crime with no violence. Another group were shown the same film but with a violent incident (a boy was shot in the face). Those who saw the violent incident recalled significantly less than those who saw the film without the violent incidence.

The same effect was found by **Peters (1988)**. He studied people who were attending their local health clinic for an inoculation. The people met a nurse (who gave them their injection) and a researcher for equal periods of time. A week later, they were asked to identify the nurse and researcher from a series of photographs. Although they had seen both people for the same amount of time, Peters found participants were significantly better at identifying the researcher than the nurse. Peters argued that the anxiety of having an injection, associated with the nurse who had given it, had affected memory.

Loftus (1979) also found that EWT is impaired by anxiety. In her experiment, participants who arrived at her laboratory were asked to wait in a room next to the laboratory for a few minutes. One group of participants heard a quiet discussion about equipment failure coming from the laboratory. Then a man emerged from the laboratory holding a pen in his greasy hands. He uttered a single comment, and then walked past the participant out of the room.

The other group of participants heard a heated and angry argument coming from the laboratory, and heard breaking glass and crashing chairs. This time the man emerged from the laboratory holding a paper-knife covered in blood. He also made a single comment before walking past the participant out of the room.

Participants were then given 50 photographs and asked to identify the man. The man was identified 49% of the time when he was holding a pen, compared with 33% of the time when he was holding a knife.

Loftus believes that in incidents where there is a weapon such as a knife or a gun, participants' attention is drawn to it, and this is why their memory of the person holding the weapon is poor. She calls this **the weapons focus**. Loftus believes that the anxiety caused by the sight of a weapon narrows our focus of attention, and produces less accurate recall of peripheral details but very accurate recall of central details. She calls this **detail salience**.



This piece of equipment tracks the eye movements of a participant as s/he witnesses an event shown on the television monitor

A very recent study has also shown how anxiety can negatively affect EWT. This study was conducted in the real-world setting of the London Dungeon tourist attraction:

In real life, witnesses to crimes are likely to be in an anxious state when their memories are laid down, yet most laboratory studies of eyewitness testimony fail to recreate a stressful context. However, by conducting a study at London Dungeon's 'Labyrinth of the Lost', Tim Valentine & Jan Mesout were able to investigate the effects of anxiety without provoking any ethical objections and without participants realising their memories were going to be tested. Participants thought their only task was to answer questionnaires at the end of their visit.

While in the Labyrinth, 56 participants had their path blocked by an actor wearing a hooded robe and with scars on his face. After completing their visit, the participants were asked to identify the actor who had blocked their path from among a series of photographs that included eight other actors were a similar costume and makeup.

The researchers measured the participants' anxiety levels of the participants using subjective self-reports of their level of anxiety at the time, and a heart rate monitor (and found the former to be a reliable predictor of the latter). For individuals who scored above the median in anxiety level, only 17% accurately identified the individual; for individuals who scored below the median, 75% accurately identified the individual. In short, the researchers found "a strong negative association between state anxiety and the ability to correctly report the appearance of a person encountered under stressful conditions." More succinctly: "Eyewitness identification was dramatically impaired by high state anxiety."

The researchers also compared anxiety levels associated with gender, and found that females reliably experienced higher levels of anxiety than males, which suggests that on average, a female's memory of a perpetrator encountered under high stress can be expected to be less reliable than a male's under similar circumstances — though both will become increasingly unreliable as the level of stress increases.

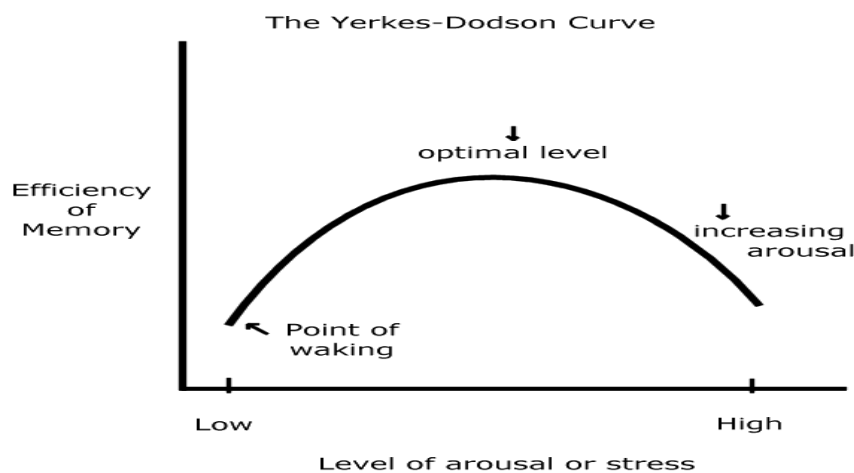
Valentine and Mesout concluded that their research suggests that laboratory studies of stress have underestimated the effect of stress on eyewitness reliability, and that the closer the approximation to the level of stress experienced in a real crime scenario, the more dramatically the stress impairs the ability of witnesses to identify the perpetrator.

EVALUATION: Strengths and weaknesses of research into the effects of anxiety on eyewitness testimony

One issue relating to this area of research is the fact that some studies show that increased anxiety can actually **improve** the accuracy of eyewitness testimony.

For example, **Ginet & Verkampt (2007)** varied how much anxiety participants experienced by telling them that the electrodes they were going to be wearing in an experiment either just recorded information ('low' anxiety) or could give them an electric shock ('moderate' anxiety). Participants then watched a film of a traffic accident, and a week later were asked questions about it. The results showed that the 'moderate' anxiety participants recalled more than the 'low' anxiety participants.

One way of explaining these apparently contradictory results is in terms of the **Yerkes-Dodson Law**. According to this, anxiety and memory are correlated as shown below:



The Yerkes-Dodson Law says that too much anxiety impairs memory, but low to moderate levels improve it. It could be argued that research like the London Dungeon study caused participants so much anxiety that their memories were impaired. However, the Ginet & Verkampt (2007) study produced a 'moderate' level of anxiety which led to better recall than a 'low' level of anxiety.

Unfortunately, for this theory, there is also research which suggests that even extremely high levels of anxiety do not impair the accuracy of EWT. For example, **Yuille & Cutshall (1986)** interviewed witnesses to a real-life robbery in a gun shop in Vancouver, Canada. The shop owner had

shot and killed the thief in front of 21 witnesses. The witnesses remained very accurate in their reports, despite the very high levels of stress they experienced. Their recall remained accurate when they were interviewed again 4 months later.

This area of research can be evaluated in other ways as well:

- **Positive evaluation** (Strengths) can take many forms, including elements of PEECH + E. For example, the research is good because both Peters' and the London Dungeon study were conducted in the 'real world' and therefore have **high ecological validity**. The research has also used 'ordinary' people (adults and children), so it is **high in population validity**. The Peters' study is American and the London Dungeon study (obviously) British, so there is **high cultural validity**.
- **Negative evaluation** (Limitations) can also take many forms, again including elements of PEECH + E. For example, 'real world' studies are **less controlled**. For example, adults cannot give *fully* informed consent, and field studies (e.g. scaring people in The London Dungeon), raise concerns about **deception, consent, and protection from harm**.