

2B.4.2 Amnesia

Types of memory deficit

There are different types of memory disorders. Some are specific and result in memory loss for particular types of stimuli such as faces, others are more general and affect memory for different kinds of stimuli.

Amnesiac patients usually show a number of symptoms:

- ▶ There is an impairment in memory of new information learned after the onset of the amnesia, i.e. anterograde amnesia
- ▶ There is difficulty remembering events that occurred before the amnesia, i.e. retrograde amnesia (most common with Korsakoff's syndrome)
- ▶ Those suffering from the amnesic syndrome generally have only slight impairment of short-term memory
- ▶ Patients with the amnesic syndrome usually have some learning ability after the event that caused the amnesia, in spite of poor long-term memory

Amnesia can be classified in a number of ways, but it is usual to distinguish between retrograde and anterograde.

- ▶ **Retrograde amnesia:** memory is lost for events before the trauma. People who have suffered severe shock or a head injury prior to the incident are often unable to recall events that preceded the injury. Their short-term memory may, however, still be intact. When recovery happens, the most distant memories often return before more recent ones.
- ▶ **Anterograde amnesia:** memory is lost for events after the trauma. Milner (1966) showed that this amnesia could arise as a result of damage to the hippocampus after an operation. This is also shown in Korsakoff's syndrome (resulting from chronic alcoholism). Although they seem normal, they cannot retain information and may not remember people who they have met the same day.



Reading: Gross pages 250-251



SAQ 7

Explain the difference between anterograde and retrograde amnesia.

Memory deficits and amnesia (STM or LTM)

Using cognitive techniques it was thought that the impairment shown in amnesiacs, reflected a damaged long-term store combined with an intact short-term store (Baddeley & Warrington 1970). Using free recall tasks mentioned previously, it was shown that the beginning and the end of a list of words are better remembered than the middle portions. The assumption is that the first few items remembered from a list had been transferred to long-term memory (LTM) while the last few were still in short-term memory (STM)

when recall of the list began. Amnesiacs have most difficulty remembering the initial items of a list, indicating problems with LTM, not STM.

Warrington & Shallice (1969) discovered another type of memory disorder. A patient with apparently intact LTM had a severely limited immediate memory capacity. Asked to repeat back a simple list of digits, the patient, KF, could only remember one of them. KF also had an impaired recency effect, i.e. he found it hard to remember the last few items in a list though his memory for the first few was normal. The problem seemed to stem from a damaged short-term store.

Certain types of amnesia are characterised by difficulties in retaining new traces in memory account for. HM who had an operation in 1953 to relieve his epilepsy. The operation involved cutting the temporal lobes and removing parts of his hippocampus and amygdala (mid-brain structures). HM could not consciously remember for more than a few minutes anything that had happened after the operation, but had reasonable clear memories of events which occurred prior to the operation.

Some causes of amnesia

Korsakoff's syndrome

It is difficult to relate amnesia found in Korsakoff's syndrome to just one stage of memory, though it has been suggested that Korsakoff patients may have difficulties in using the context in which material is learned to reinforce their memories. Also, researchers have often studied groups of patients rather than single cases, subtle differences between patients could have been overlooked.

Recently patients have been studied using the working memory model (Baddeley et al. 1986, 1990). Their problems seem to arise because of damage to part of the articulatory loop, namely the phonological store, which retains a record of the sound of the incoming information. Patients who show selective deficits in imagery and others who seem to have problems on tasks thought to reflect the functions of the central executive, show evidence for the dissociability of the various components of working memory.

ECT

Electro-convulsive therapy (see Gross pages 666-667) works by inducing an artificial epileptic fit, by passing an electric current through the brain. Patients show muscular convulsions and tremors (which are controlled by the administration of muscle relaxants) followed by a period of disorientation. The treatment is repeated about 6 times, usually occurring every other day. Although it has the effect of alleviating depression it causes amnesia, memory can take several hours to return to normal.

Alzheimer's disease

Paramnesia is when memories are not totally lost but they become distorted. This type of amnesia develops as a result of diseases which result in premature ageing, i.e. Alzheimer's disease or Huntington's chorea.

In Alzheimer's disease there is often widespread damage to areas of the frontal, temporal and parietal cortex, leading to retrograde amnesia. This is also the case in Korsakoff's syndrome. Patients have poor long-term, explicit memory but an intact procedural memory (motor skills etc.). (See Unit 2B.2) However, the memory impairment in Alzheimer patients is much more severe than Korsakoff patients as it includes short-term memory and semantic memories that were formed before the brain damage. The wide variety of memory impairments found in Alzheimer patients reflects the widespread brain damage associated with this disease.

Recovered and false memories

The concept of repression

There is a heated controversy surrounding the recovery of so-called repressed memories. This is particularly in cases that have involved abuse as a child, and when techniques such as hypnosis are used. Freud believed that the hypnotic state produced regression. The conscious control or ego functioning of behaviour is suspended and it becomes possible to return to childish modes of behaviour. Although Freud abandoned hypnosis as a method of gaining access to the unconscious, it is still used today to help people discuss memories whose inaccessibility is hindering therapeutic progress.



Reading: Gross page 318-319 'Motivated forgetting theory'



SAQ 8

- a) How, according to Freud, does repression occur?
- b) Outline one clinical and one experimental test of Freud's theory of repression.

Evidence for recovered memories

There has been no shortage of claims for recovered memories. Herman & Schatzow (1987) claim to have found that 28% of female victims of incest reported major memory deficits from childhood and these repressed memories were more common among women who had suffered violent abuse. Williams (1992) indicated that in a group of abused African-American women, 38% reported repressed memories of that abuse. The abuse had taken place approximately 17 years previously.

One of the main problems with establishing the accuracy of repressed memories is that there is almost always no concrete evidence to support the claims. However, sometimes evidence is discovered, for example there may be photographs or videos or it might be possible that close relatives may confirm memories not related to abuse. For example, Loftus (1993) discussed the case of a 27-year-old man who retrieved repressed memories of seeing his mother trying to hang herself. The man's father was able to confirm these memories by saying that his son witnessed this event when he was just three years old.

But here is also evidence that memories of past traumatic events can be inaccurate. Pynoos & Nader (1989) assessed children's accounts of a sniper attack in the school playground, they found that misreporting of events was evident.

Loftus (1993) attempted to implant a false memory into a 14 year-old boy. His older brother was persuaded to tell the 14 year-old that he had been lost in a shopping precinct when he was only five years old. The younger boy was convinced this was true. Even when the younger brother was told it wasn't true, he found it very hard to believe. Loftus concluded:

Another difficulty in accepting recovered memories is the fact that they might have happened very early on the child's life. Events may become distorted with retrospection. Also, if the incident happened and ceased under the age of four then according to the BPS report of 1995 on recovered memories, child sexual abuse may not be retrievable in adulthood, i.e. it may not be describable in words.

The fact that there are serious doubts over the accuracy of recovered memories raises a number of **ethical issues**. Psychotherapists have been accused of implanting false memories in the minds of patients. They have been accused of misleading vulnerable clients and of wreaking the lives of innocent parents. Support groups have even been formed for the victims of false memories just as groups exist to support victims of child abuse.

Many psychologists accept that false memories could exist. They point out the constructive nature of memory. Memories could be produced by combining actual memories with suggestions from therapists. Once established, such memories would be as real to the person as any other memory. As Loftus (1977) points out:

“We do not yet have the tools for reliably distinguishing the signal of true repressed memories from the noise of false ones...Psychotherapists, counsellors, social service agencies and law enforcement personnel would be wise to be careful how they probe for horrors on the other side of some presumed amnesic barrier. They need to be circumspect regarding uncorroborated repressed memories that return”.



Reading: Gross pages 319-320



SAQ 9

- a) How is the concept of repression used to explain recovered memories?
- b) Summarise the evidence for and against recovered memories.
- c) What ethical issues need to be addressed by therapists working in the area of recovered memories?
- d) How might false memories be created?