

# The Impact Emotion Has On Memory

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## Abstract

The investigation aimed to see if emotion has any impact on memory by investigating recall of emotional and neutral words. This was done by presenting a PowerPoint presentation to the participants which consisted of either an emotional or neutral word on each slide depending on which condition they were participating in. After the PowerPoint presentation an interference task of three simple maths questions was to be completed by the participants. Then for two minutes participants had to recall as many words as they could remember. The experimental hypothesis stated that; “There will be a difference between recall of emotional and neutral words”.

For the study a laboratory experiment was used, the design involved was an independent groups design where different participants were used in each condition. 20 participants from St Marks 6<sup>th</sup> form (10 males and 10 females) took part in the study. The results showed that on a whole more emotional words were remembered than neutral words during recall. The results were found through the Mann-Whitney U Test which proved to be significant. The value of U in this data is 22 which is under the critical value of 27 meaning that the results are significant and therefore the experimental hypothesis was accepted and it was concluded that emotion may have an impact on memory.

## Introduction

Memory is a term that can be used in many different ways, it is a mental function by which we are able to retain and retrieve information about events that have happened in the past. Our long-term memory differs from our short-term memory in that it has an unlimited capacity and can last potentially for a whole person's lifespan whereas our short-term memory has a limited capacity and duration of around 18 seconds when verbal rehearsal is prevented. Yet we do not remember everything that has happened to us. Many of our memories are not permanent therefore we forget things. Therefore this could suggest a link between memory and emotion. Despite the large amount of research on each human characteristic research to link these characteristics is very limited and mostly contradicting. This research will therefore try and find the link connecting both memory and emotion.

Emotion can have a powerful impact on memory. Our most recalled memories are of emotional events. Psychologists who have challenged this hypothesis have found various explanations. Both Brown and Kulik (1977) proposed emotion can cause memory to become heightened causing flashbulb memories. Flashbulb memories consist of an individual's recollection of a detailed and enduring memory of which they first heard about a personally important event. This suggests emotion to be an important element; the more unexpected or surprising an event is the more it would be emotionally charged.

Sheingold and Tenney (1882) enquired into personal memories, they saw most people has good memories for a birth of a brother or sister as people remembered when and who told them which remained consistent over time. Thus this experiment suggests that the emotion experienced when people were told about the event resulted in higher recall.

Craik and Lockhart's level of processing model (1972) explains the link between memories in terms of depth of processing. The quality of memory is based on its meaningfulness. Emotion may enhance how deeply the information is processed making it more memorable. Emotion must contain this characteristic to provide better recall.

Other researchers have conducted experiments to find out if emotion does cause stronger memories. Johnson and Scott (1978) arranged for participants to hear a fight taking place in the room next door. Some participants experienced a high stress condition and others a low stress condition. Participants in the high stress condition were found to have better recall however there were individual differences. This proves that when participants are faced with a situation that causes higher emotion they are more likely to recall the event more accurately.

However conflicting evidence for emotion enhancing memory was put forward by Kohler and Wilke (1999). Participants were given a list of 60 words and participants gave word associations with the 60 words. During the association skin conductance and reaction times were recorded. Straight away after the associations the list was read again and participants had to recall the original associations. After a week

participants had to recall the original word associations and rate how emotional they found the words. A later correlation was drawn up between the emotion score and how well the words were remembered. The results showed emotional words to be recalled less well in both short-term and long-term memory.

Furthermore Bradley and Baddeley (1990) supported this by testing emotional factors in forgetting by investigating participants' reactions to emotionally charged words. Bradley and Baddeley used a word association task. Participants had to say the first word that they thought of when told a trigger word. Some trigger words were emotional and others neutral. Some participants were asked to recall the word association immediately after the task whilst some participants were tested after 28 days. Bradley and Baddeley found that participants who were tested after 28 days remembered the emotional associations better than the participants tested immediately after the task. It may be that anxiety and arousal depresses short-term recall but enhances long-term recall.

As it can be seen research in this area is often conflicting and contradictory which causes it to be a more interesting and exciting area to study within human characteristics.

## Aims and Hypothesis

### Aim

The aim of the study will be to support the experimental hypothesis. Following from the study of Bradley and Baddeley (1990) and Kohler and Wilke (1999), the study should provide evidence to see if emotion has any impact on memory by investigating recall of emotional and neutral words. The study will use two conditions. In condition A participants will be shown a list of emotional words through a PowerPoint presentation and in condition B participants will be shown a list of neutral words. Participants will then be asked to recall the list of words. Based on the findings mentioned above it would be assumed that recall would be better for emotional words rather than neutral words. However based on the conflicting evidence an experimental hypothesis has been selected.

### Experimental/Alternative Hypothesis

There will be a difference between recall of emotional and neutral words.

### Null Hypothesis

There will be no difference in the recall of words given by participants whether words are emotional or neutral. It would be suitable to use a non-directional hypothesis due to the lack of research in this area.