

The effects of age on the application of memory strategies



The purpose of this experiment was to investigate the effect of age on the use of memory strategies.

The aim was to determine whether there was a difference in use of memory strategies between younger and older groups of participants. Participants were required to observe 20 pictures, five from each of four different categories, for two minutes, then after a 30-second interlude, recall as many of them as possible. The pictures were presented in either an organised or an unorganised fashion. The hypothesis for the experiment was that the young participants would have higher recall when the information was organised, while the mature group would show little difference in recall between the organised and unorganised categories.

The results support the hypothesis, revealing that children do not use memory strategies. The young group failed to organise the data, as the mature group did to improve their memory retrieval. The purpose of this experiment was to find out if a difference in memory performance exists between young and old participants to see whether young children will employ organisational memory strategies, and to see if this is reflected in the experimental results. This will be done by measuring the memory response of young and mature participants, in relation to organised and unorganised presentation of data.

The aim was to prove the notion that organisation of the pictures will result in the improvement of memory performance, particularly in the younger group. This report will explain the difference between memory recall of adults and children. As age increases ones' memory ability goes through

significant changes. Generally, a seven year old has not learnt to rehearse information for the purpose of making memory recall easier.

(Psychology 111/112 Laboratory Manual, 2003) A child over the age of seven will rehearse spontaneously and as they grow older this reflex will become more evident. Past research from the likes of Kail (1990), and Moely (cited in Kail 1990) has revealed that children below the age of seven have yet to learn the skill of rehearsal. Studies by Moely, Olson, Halwes, and Flavell (1969) (cited in Kail, 1990) involved taking a group of children between the ages of five and 11, and presenting them with an assortment of pictures. These pictures were arranged in a circle in a unorganised order, that is no two pictures from the same category were adjacent. The children were told that they were to study the pictures and could move them around if that made remembering them easier. The experimenters were particularly interested in the associations the children made between pictures of the same categories.

The experimenters then came up with a scale for the number of associations made by the participant. 0 represented no associations or groupings, and 1 reflected perfect organisation, that is the participant was able to recognize and associate all the categories, and items within, correctly. The results of this study revealed that only children between the age of 10 - 11 showed a ready ability to categorize the pictures in order to help them remember. Younger children very rarely showed the ability to make associations. This study exemplifies the significant changes that a child's memory undergoes between the ages of 5 and 11.

Between these ages, a child learns to categorize information so that it may be retrieved. (Kail, 1990) Information cannot, simply be implanted into the memory system. After much research, it has been concluded that the implementation of memory strategies do enhance memory storage. (Flavell and Wellman 1977, cited in Kail 1990) Four Common Memory Strategies of encoding information into our memory are Attention, Rehearsal, Organisation and Elaboration. Attention is specifically concentrating on the items to be remembered. Rehearsal is constant repetition of the items to be remembered, while organisation is structuring the information in such a way so that it may be easily remembered, in the instance of this experiment, placing the pictures in corresponding categories.

Finally elaboration is linking the items to be remembered, to other information so that it may be remembered by association, such as making up a story. The implementation of one of these techniques will almost certainly increase the likely hood that one will remember the given items. The question specific to this experiment is whether the younger generation will use such strategies for the purpose of encoding information. As we grow older, our wealth of knowledge increases, so to does our need to be able to store and retrieve information that is already stored in our memory.

(Psychology 111/112 Laboratory Manual, 2003) Three common Memory Retrieval strategies are the use of cues, associations and persistence. By remembering a cue, that cue stimulates the memory of other associated items, i. e. remembering the lamp stimulates the memory of the chair, couch, bed and table around it. Associations are remembering items by recalling something associated with that item, i.

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e. remembering getting dressed this morning may help the participant to recall the different items of clothing that were presented in the array of pictures. Finally, the memory may be jogged by persisting at the task.

Children generate single meanings, as they tend to look at the visual cue as a solitary object, without links to other items.

However, older children and adults use a given cue as a starting point for an extensive search of their memory. (Kail, 1990) An understanding of developmental stages in memory learning strategies allows us to comprehend teaching methods of memory strategy to young children and to understand how we might fully utilize our memory capacity in everyday life. In specific this experiment is looking at whether presentation of pictures in an organised fashion, has a greater influence on younger participants, and do the young and older participants have variations within the amount of organisation that they personally inflict on the unorganised pictures? It is hypothesized that for young participants the number of items recalled will be higher for organised pictures than unorganised pictures. That mature participants will show little difference in recall accuracy in the organised and unorganised conditions, and mature participants will use an organisational strategy during retrieval for unorganised pictures, while young participants will not use a strategy. One of the aims of the experiment is to evaluate whether children will rearrange the information that is presented to them into an organised fashion, that would make it easier for them to rehearse and retrieve. Method Participants The current experiment involved two distinct age groups of participants, those between 0 - 7 years and those from 11 years old onwards.

In total there were 749 participants of both male and female gender. The average age of the young group was 5.4 years and there were 85 participants in this category. 664 people participated in the mature category with an age of 19.

7 years. Participants were semi-randomly selected from a pool of first year undergraduate students, who were partaking in Psychology 112, at the University of Otago, and their associates. For those undertaking the Psychology course, participation in the experiment was a course requirement. For those outsiders and younger children involved they freely consented their time. Participant data was accumulated over a four year period. Prior to commencement of this experiment the participant was required to sign a Declaration of Informed Consent to prove that they understood the purpose and aim of the experiment and agreed to take part in the experiment. Apparatus The experiment involved two sets of pictures with a distraction illustration for each set.

Each set contained 20 individual pictures, five pictures from four different categories, 'Sea Animals', 'Food', 'Christmas themes', 'Halloween', 'Insects', 'Zoo Animals' and the like. One set of pictures, labeled 'O' was organised. This meant that the pictures when appearing to the participant appeared in categorical order, i. e.

the five pictures from each of the categories would appear consecutively. The second set of pictures labeled 'U' was unorganized i. e. no two pictures from the same category would appear to the participant consecutively.

The organised and unorganised sets of pictures were known to the participant as Set A and Set B so as not to bias their results, inferring that one set was organised and the other unorganised. A stopwatch was required to measure the time elapsed between segments of the experiment. The results were recorded on a coding sheet was, the recall figures were then loaded into the Psychology computers where the mean recall figures were calculated. ProcedureThe experimental design was a mixed. It featured elements of both within subjects and between subjects.

The experiment was within subjects because all participants were exposed to the same form of testing procedure. It was between subjects because there were two different experimental categories, the young age group and the mature age group. There were two manipulated variables, one being the different age of the participants, whether they were young or mature. The other was whether the data was presented in an organised or unorganised format, this was the between subjects variable. The measured variables, were the within subjects variables, and were the number of items the participant was able to recall from the organised and unorganised presentation of the pictures, and the number of paired associations made by the participant.

Psychology 112 students conducted the experiment on each other in pair groups. For the purposes of counter balancing the groups were assigned a number. This number corresponded to whether the presentation of the organised data would appear first or second to the presentation of the unorganised data. This prevented the participant from practicing the information. The second measure taken in counterbalancing was the which <https://assignbuster.com/the-effects-of-age-on-the-application-of-memory-strategies/>

stimulus set, A or B would become the organised set, this was randomly distributed to control for the fact that one stimulus set maybe easier to organise or associate with than another. The last counterbalancing method was the variation as to which stimulus set would be presented first.

This again varies the sets, to give variation to the experiment. Initially the participant was shown all the pictures to confirm that they were able to identify them. The participant was then read the following instructions: " Now I'm going to put all of the pictures on the table. When I have finished you will have two minutes to study them. You may move them around in a different order, pick them up, or do anything you like to help you learn them.

After two minutes, I will take them away and you will try to name as many of them as you can. You do not have to learn them in any special order. OK?" (Psychology Laboratory Manual, 2003, Page 145) After two minutes observing the 20 pictures, the pictures were removed, and the participant was required to spend 30 seconds evaluating the distraction task before recalling the 20 pictures. The participant was then presented with the second set of pictures (the alternate set, depending on whether the organised or unorganised set was presented first) and asked to follow the same procedure, two minutes to observe the pictures and then 30 seconds to explain the distraction task, before recalling as many of the pictures as possible. The experimenter recorded the results on the Coding Sheet and then worked out the number of category pairs recalled for both the organised and unorganised data.