Introduction

Memory is the ability to store information and retrieve it later when it is needed. Without it we would be able to do everyday tasks we take for granted. Images we see enter our eyes as light waves and we hear through sound waves. To make sense of the information it has too undergo three stages. These include encoding, were the information is changes so that we can make sense of it. It then goes into storage in a place which we can retrieve it whenever it is needed. In this piece of coursework I will be devising a test to see whether organisation can improve memory based on the work of Bower at al (1969). There are 3 mnemonics to help improve memory. These are…

Cues

Cues are like clues; they are like little arrows in our mind that helps guide us to the information we are looking for. They are one of the things we can do to improve recall. Tulving and Pearlstone (1966) asked participants to read lists containing a mixture of words from particular categories. They were then tested in free recall; one group was given a blank piece of paper to write the words down and the other group were given a piece of paper with the category headings from the list. The group with the headings recalled more than the group with the blank piece of paper. This shows how the category headings served as cues improve recalls.

Imagery

Another thing that has been found to improve memory is the use of imagery. Bower (1972) asked his participants to remember word pairs consisting of unrelated nouns. He then asked some of his participants to form a mental image in which the objects were interacting. For example if the words were horse and table, you could image a horse on top of a table. Bower found that the participants who constructed a mental image found it easier to recall the word pairs.

Organisation

One more thing and the one I will be looking at helps us to recall things is organisation. Bower and colleges (1969) gave to groups 112 words in sets of 4 to remember. One set was given an organised list and one set was given a disorganised one. Bower found that the group with the organised list remember 65% of the words were as the disorganised list could only remember 20%. This shows that organisation can improve recall.

Hypothesis

The aim of my coursework is to recreate the work of bower et al. I will be doing this by constructing my own experiment to see if organisation does improve memory. My hypothesis is that my participants will remember more words if they are in an organised structure rather than a disorganised one. My results wont be as reliable as Bower's as I will have a much smaller sample size and I will be using children aged 14-15 who's memory's wont be as fully developed.

Method

Design

I will be constructing my own experiment to conclude my hypothesis to be true or false. The method I will be using is experimental; this is because people don't

naturally recall word lists. To make my results more reliable will be sticking to strict controls. I will have 2 independent groups, one with the organised list and one with the disorganised list. The dependant variable would be the number of words recalled by my participants. This will have the cause and effect theory as the independent variable will have an effect on the outcome of the dependent theory.

Controls
I will be conducting my experiment on Thursday morning between 10.45 and 11.25 as this is when I have double psychology. I will use the same time for all of my participants to keep it a fair test as your mind is more alert at different parts of the day. I will conduct my experiment outside the class room to ensure there are no distractions or social influence. I will give every participant one minute to look at the list of words and then give them one minute to recall the words. I will keep this controlled so everyone has the same amount of time and to ensure my results are accurate. Participants will be shown a list of 20 words as I feel this is not to difficult but not to easy and I will use the same amount for everyone. I am using these controls to ensure a fair test and accurate results.

Participants
All my participants will be aged between 14-15 years old as they should all be at the same level of cognitive development. Therefore the age shouldn't have any effect on the experiment and so it will only be organisation that will affect the results. I will also use an equal amount of males and females in both groups so this also wont affect my results. This will develop Bower's study even further as he only used male participants.

Materials
I will be using for my experiment….
A table
2 chairs
20 pieces of plain sheets of paper
10 female participants
10 male participants
A pen
Stopwatch
1 disorganised list
1 organised list

Procedure
I will firstly get consent from my participants and read out the standardised instructions. Then I will hand them my organised word list and wait for 60 seconds. After removing the list and handing them the plain piece of paper and pen, I will wait a further 60 seconds to let them recall as many words as they can. I will then debrief them by reading my debrief sheet and repeat this 9 more times. I will then do the same with 10 more participants but with the disorganised list. I will then analyse my results later.

Ethics
I will ask all my participants consent to take part in my experiment to ensure they don't feel indomitable or distressed. To ensure my results are reliable and that my

participants don't show demand characteristics, I will not explain fully my experiment until after when I debrief them. Debriefing them is important so they don't feel used in anyway and understand fully what is going on. I will ensure this so that id don't break any ethics and so no participants feels distressed. I will also ask them not to tell anyone about the experiment encase I use them as future participants as it may affect my results.

Results

Gender	Organised	Disorganised
Female	20	15
Female	17	12
Female	14	12
Female	14	11
Female	12	6
Male	20	15
Male	17	12
Male	13	10
Male	12	10
Male	10	9

Mean, Median, Mode, Range and percentage of words.

Mean

Gender	Organised	Disorganised
Both	15	11.2
Female	15.6	11.2
Male	14.4	11.2

Median

Organised	Disorganised
14	11 and 12

Mode

Organised	Disorganised
13,14,17,20	12

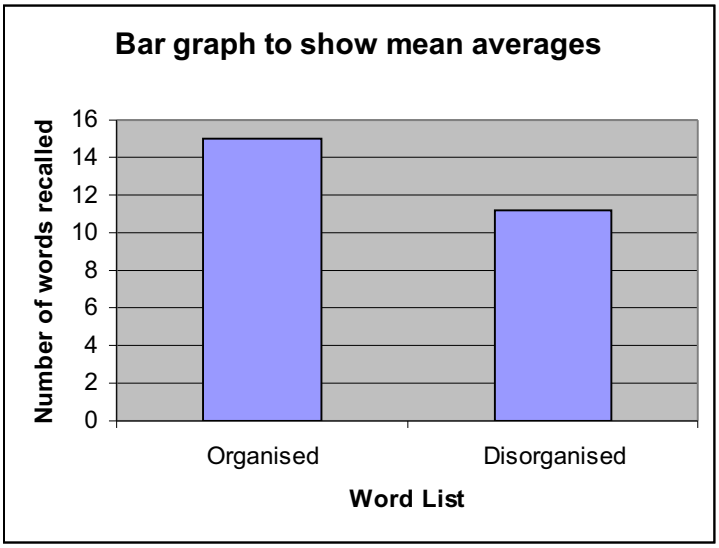
Range

Organised	Disorganised
10	9

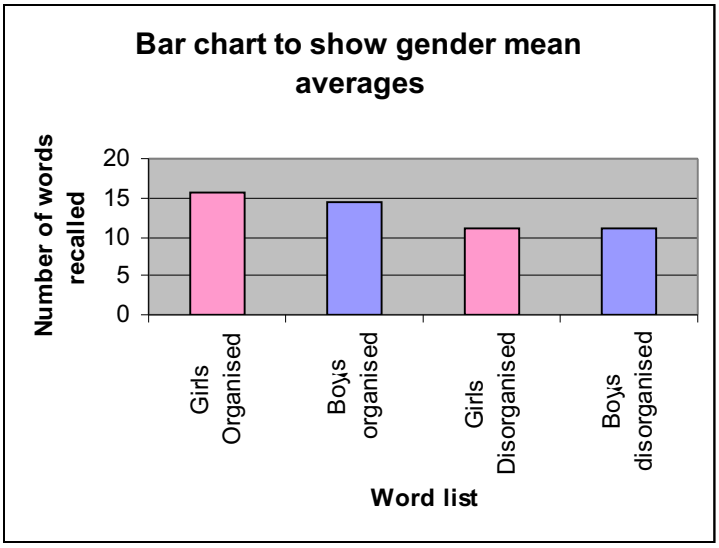
Percentage of words remembered

Organised	Disorganised
75%	56%

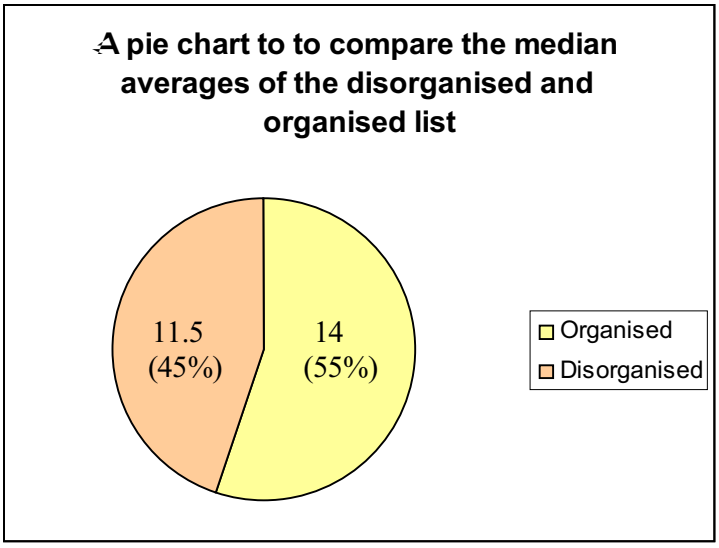
Graphs



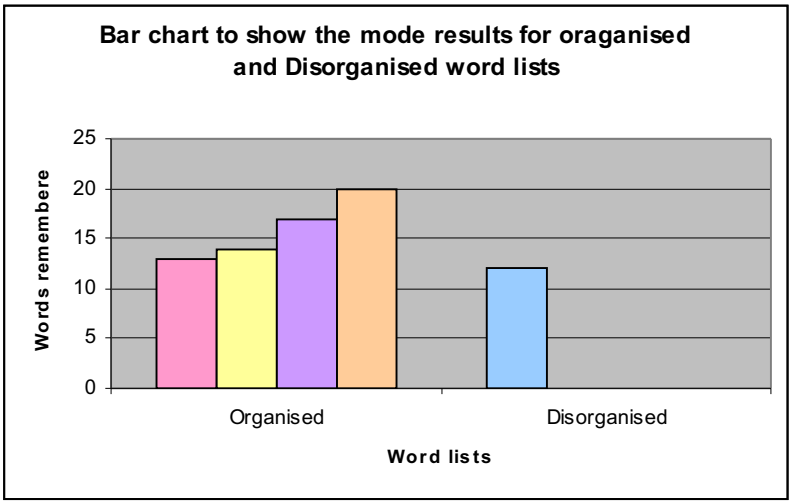
This graph shows the average mean of both organised and unorganised word lists. From this we can see the organised list has a greater mean than the unorganised word list. This helps prove that organisation helps improve memory as participants that received the organised list recalled more words than those who didn't.



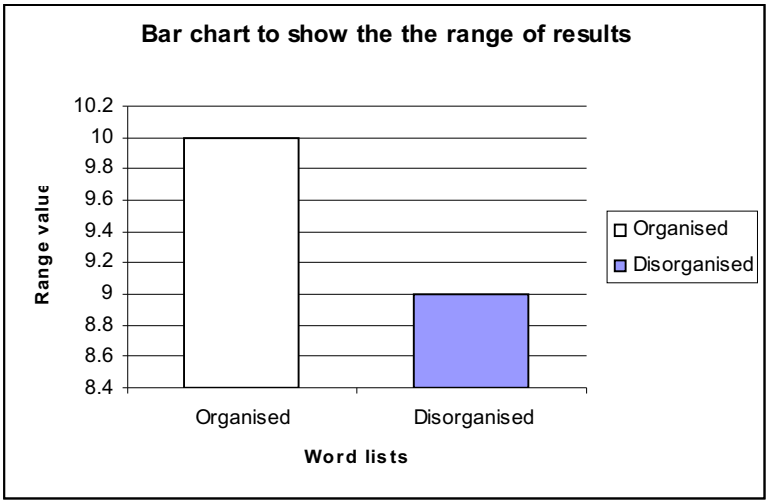
This graph shows us the average mean of the organised and unorganised word lists for females and for males. From this graph we can see that organisation improves memory for females more than it does for males. Also females are better at memorizing from organised lists than males but are equal at unorganised lists.



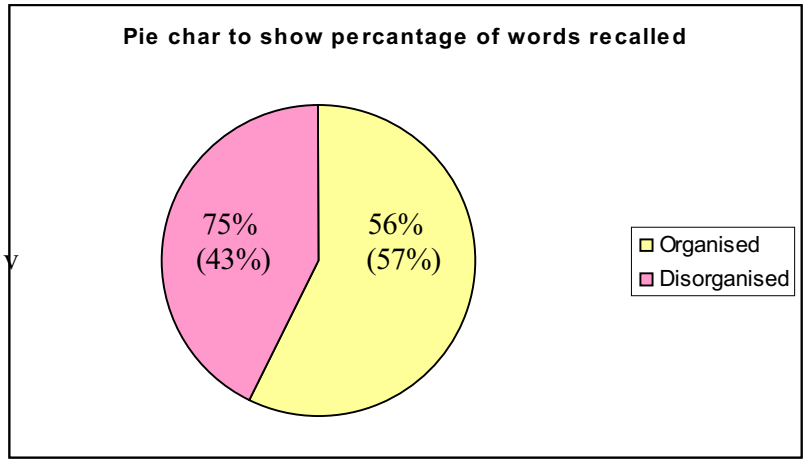
From this graph we can see that the median amount of the organised word list is slightly higher than the disorganised list. This also shows us that organisation helps improve memory.



From this bar chart we can see the mode results. The results for the unorganised list are lower than any of the results for the organised list.



This graph shows the range of results. The organised list has a greater range than the unorganised list which shows there was a bigger difference between the numbers of words recalled by participants.



From this pie chart we can see that the participants who received the organised list managed to recall more words than those who received the unorganised list. This also helps strongly to prove organisation helps improve memory recall.

Statement of results

After completing my research I have found out that the mean, median, range, mode and overall percentage have been higher in the organised group. This shows that the participants that received the organised list recalled more words than those who didn't.

For the organised list, the mean was 15, the median was 14, the mode was 13, 14, 17 and 20, the range was 10 and the percentage of words remembered was 75%. For the unorganised list, the mean was 11.2, the median was 11 and 12, the mode was 12, the range was 9 and the percentage of words remembered was 56%.

From these results I can see that organising the words into categories makes it easier to remember the words so that we can recall them later, therefore making memory recall more efficient. These results support my hypothesis and the work of Bower.

Discussion

My experiment proved that an organised word list is easier to recall than an unorganised word list. I can see this from the mean, median, mode, range and the overall percentage as they were all greater in the organised group.

My results also supports Bowers findings as he found that in his experiment participants remembered 65% of the words from the organised list and only 20% in the unorganised list. My results showed that participants remembered 75% of the organised list and 56% of the unorganised list. However my results are weaker than Bower's as Bower had a difference of 45% were as I only have a difference of 19%. All my results support the work of Bower even though it is very weak. Bowers work is more reliable than mine as he used a larger group of people and larger word lists.

My results also show that female participants remembered more words on average from the organised list than the male participants The Females remembered on average 15.6 words, where as the males remembered 14.4 words. However, from the unorganised list males and females remembered the same amount of words on average. This shows females find it easier to remember words from the organised list more than males. This shows that organisation improves memory more for females. However there is only a weak result and there isn't enough participants to prove this correct.

Limitations

In my experiment, I had a few limitations that could have been improved. Firstly I did not carry out my experiment at the same place each time. This meant that participants could have been distracted by there surroundings. This would make my results less reliable. I had to change my location as the place I originally chose was unavailable. I also had to do the experiment at different times of the day. Studies shows that your brain is more aware at different times of the day, so this would have affected my experiment as participants were not tested at the same time. I had to this because there wasn't enough time to wait every week. I also only used 20 participants which is a very small sample size. This also weakens my results as by having more participants I would have a larger range. If I repeated my experiment, these are the changes I would make to make my results more reliable and a more accurate outcome.

Appendix

Wordlists

Organised

Blue	Banana	Ruler	Giraffe
Pink	Lemon	Rubber	Kangaroo
Purple	Apple	Book	Hippo
Yellow	Grape	Pen	Lion
Green	Strawberry	Pencil	Zebra

Unorganised

Banana	Hippo	Yellow	Giraffe
Ruler	Lemon	Rubber	Pink
Purple	Pen	Book	Strawberry
Grape	Zebra	Apple	Lion
Green	Pencil	Kangaroo	Blue

Instructions
I am conducting an experiment for my psychology coursework on memory. If you are willing to part, you will be given a word list consisting of 20 words, a blank piece of paper and a pen. You will have one minute to look at the words so try and remember as many as you can. When the one minute is up, I will take the word list away from you and you will be given 1 minute to write down as many words as you can remember. If you don't want to take part in this experiment, you can leave; if you do then we will start now.

Debrief
Thank you your time is up. As you know the experiment was on memory, I was testing to see if an organised word list makes it easier to remember than an unorganised word list. You were given the unorganised/organised word list. Thank you once again for taking part, and could you please not tell anyone about this experiment encase I use them as future participants.

Bibliography
I used 'psychology for you' pages