

Candidate 1 evidence

Discussion

Analysis:

results showed that no matter how long people spend on their devices it does not have an effect on how long they slept for. due to the results the hypothesis was refuted. Evidence from the raw data table showed that the majority of people only get 6 hours of sleep no matter how many hours they spend on their electronic devices a day.

There could be a number of factors in the participants lives that could have affected their quality of sleep such as their mental health including anxieties or stress, work or school problems or any medication participants could have been taking that has side effects which interrupt sleep.

Hysing et al(2015) studied if bright light from devices had an effect on the length of sleep people get .His finding suggested that frequent use of devices have a negative impact on sleep and showed that the more time adolescents spent on their mobile devices the more sleep deprived they got. A similarity between this study and the one that recently took place was the age of the participants. Both studies involved adolescents aged 16, 17 and 18 years old. Both studies used non-experimental methods of a survey and asked specific questions on sleep and use of technology to gather their data. A difference between this study and the one that recently took place was that hysings sample size was much larger than this one. There were 9846 participants that took part whereas only 13 took part in this study.

Ari shetcher(2018) investigated if light emitting devices contribute to sleep problems. His finding found that if participants wore amber tinted glasses which blocked blue light for 2 hours before bed for a week it improved sleep for people with insomnia. A similarity to this study and the one that recently is the sample size. Both studies had around the same amount of people taking part , Ari had 15 participants and this study had 13 participants. A difference between this study and the one that took place recently was that Ari had specifically chosen people who suffer from sleep problems such as insomnia whereas in this study anyone was chosen to take part while not knowing if they suffered from any sleep problems.

The findings for the recent study are relevant for real life as they show that adolescents are not getting enough sleep. The recommended length of sleep for 16-18 year olds is anywhere between 8-10 hours. Only 3 of the participants got 8 hours sleep whereas the other 10 got less amount ranging from 5-7 hours a night. There could be many factors that have an effect on our sleep, not just screen time, such as social life and mental health.

conclusion:

In conclusion the results showed that there was no relationship between participants screen time and quantity of sleep. Participants who got 6 hours of sleep a night all spent either 3,5,7 or 8 hours a day on their devices. This shows

the amount of screen time does not have a real effect on the quantity of sleep. This suggests that there could have been other factors that affect sleep throughout the night such as noise or disruption, what time they went to bed or if they consume alcohol or caffeine. Therefore the results would reject the correlational hypothesis.

Evaluation:

The research method was a non-experimental method of a survey, the survey only had a small sample size of 13 people taking part which meant the sample could not be generalised to the wider population.

There were only 11 females and 2 males who took part which made my survey unrepresentative as there were more females that took part, however participants were all secondary school students between the ages of 16-18 years old, this limits the study even more as it can't be generalised to younger children or adults.

There may have been confounding variables such as problems with participants' internet which could have affected people accessing my survey as it was sent out online. Some people may have lied while completing the survey which would've made the results less reliable.

The survey was sent out online via Google Forms. Using a survey online allowed it to be easier to compare answers given with other participants' answers. However many participants misunderstood some of the questions therefore answered questions wrong which could have affected the results about if light filters have an effect on sleep. Results from the survey were collected and then converted into a spreadsheet where it was easy to compare answers. It has ecological validity.

Candidate 2 evidence

Discussion

The study supported the experimental hypothesis as the mean of the experimental group was higher than the control group. The experimental group had a mean of 884 compared to the control group's mean of 561. The median and range of the experimental group were also higher. This suggests that using the fake estimate sheets increased conformity as it caused the participants to give higher estimates.

This study can be linked to Jenness (1932) which used a similar situation, except Jenness filled the jar with beans rather than shapes. Jenness' study used an ambiguous situation as the participants did not know how many beans were in the jar. The results showed

that when the participants were able to hear other people's estimates they were more likely to conform suggesting that the rate of conformity increases in an ambiguous situation as people don't know what to do so they look to others for guidance. This study was similar as the participants did not know many shapes were in the jar. Therefore, those who had the fake estimate sheets were influenced by the other numbers because they may have been unsure of what to do.

The study can also be linked to informational influence. This is when people conform because they are unsure of what to do and think that others have information that they don't and so they change their behaviour and/or beliefs to come in line with the group. In this study those who were given the fake estimate sheets gave higher estimates which suggests that they were informationally influenced as they believed that those who gave their estimates before them must have had more information than them.

The experimental group's estimates had a mean of 884 compared to the control group's mean of 561. This implies that young people have high rates of conformity when they are informationally influenced. This may be because they have not fully developed the ability to dissent. An application of this could be that young people need to be taught how to gather the information they need so that they are able to make their own, fully informed decision rather than be influenced by someone else because they are unsure. This could be introduced as part of the curriculum in schools.

A conclusion that can be drawn from this study is that people are more likely to conform in an ambiguous situation because they are unsure of what to do and so, they look for guidance, which in this case was the fake estimate sheets.

Another conclusion that could be drawn is that age affects conformity as young people are more likely to conform because they are more easily influenced by things around them and struggle to dissent.

A strength of the study is that it was a field experiment. This is a strength because it gave the study more ecological validity as the participants were in a real-life situation which means the results can be generalised to the real world.

A weakness of the study is that all of the participants were students aged 17 to 18 and were from the central belt of Scotland. This is a weakness because it means that the results cannot be generalised to the population.

In conclusion, the results of this study supported the experimental hypothesis of 'The participants who are given the fake estimate sheet will give a higher estimate of how many shapes are in the jar than those who are given the blank estimate sheet' because the majority of the experimental group gave a higher estimate of how many shapes were in the jar than those in the control group. This can be supported as the experimental group had a mean of 884, while the control group had a mean of 561.

Candidate 3 evidence

Discussion

The results in this experiment supported the hypothesis that those who had more sleep would recall more words than those who had less sleep. The results supported the hypothesis as the mean number of words recalled for those with 7 plus hours of sleep was 8.4 and for those with less than 7 hours of sleep was 7.4.

When comparing the mean and median it can be seen that for the group with 7 hours plus sleep the mean was 8.5 and the median was 8.4 which are close values however the mean for less than 7 hours of sleep was 7.4 but the median was slightly higher at 8. This would suggest that for the group with less than 7 hours of sleep the results were skewed to the left with more lower values.

The theory discussed previously was Oswald's restoration theory, the theory states that during REM sleep the brain is restored and during NREM sleep the body is restored. This theory validates my results as those who had less sleep would not have had as much REM sleep to restore their brain as those who had more sleep, which would impair their cognitive functions. As the results show those with less sleep could not recall as many words as those with more sleep it would suggest those with more sleep had stronger cognitive abilities showing how Oswald's theory supports my results.

The results found by Wolfson and Carskadon, which were discussed in the introduction of this assignment, also support the results found in this experiment. Wolfson and Carskadon found that adolescents who had poor bedtime habits such as going to bed late, lack of sleep and going to sleep much later on weekends than on weekdays, often performed poorly in school and in exams. The results found by Wolfson and Carskadon support the results found in this assignment as both results would suggest that having less sleep results in poorer day time performance and a decline in cognitive abilities.

The results of this experiment could be the way they are for many reasons. One reason could be that due to a lack of repair done on the brain during REM sleep as suggested by Oswald's theory which would result in a worsening of the ability to perform in a memory task such as this one. Another possible reason for the outcome of these results could be that lack of sleep can cause low mood in young people as found by Wolfson and Carskadon, this low mood could prevent an individual from having the patience to take part in a memory test and put their full effort in which would result in less words being remembered.

Possible implications of these findings could be that it could aid teenagers when they are revising for exams as the results would suggest that in order to remember information and perform as best as they can cognitively they should sleep well and for an adequate time the night prior as the results found in this experiment showed that those with less than 7 hours of sleep were not able to recall as many words as those who'd had 7 or more hours of sleep.

Possible new research that could stem from this experiment could be to have the participants remember the words but have them sleep soon after remembering the words and then recall them after having slept. This type of research could find out if sleep is beneficial both before and after learning information which could be highly beneficial to students who have to remember large amounts of information for school.

In conclusion the results of this experiment would suggest that those who have less sleep have poorer short term memory and are less able to recall words in a word memory task such as the one conducted for this experiment. The results agree with the hypothesis that those with less sleep would recall less words in the memory task.

Evaluation

One weakness of the experiment was that the sample size of only 15 people is very small. This is a weakness as it means the results cannot be generalised to the entire population and does not represent how a lot of people in the public would respond to the memory task.

One strength of the experiment is that it was conducted under controlled circumstances as it was done in a classroom environment where it was quiet and extraneous variables were controlled. This is a strength as the participants were able to focus on the memory task making the results more reliable as participants could put their full effort into the task.

One weakness of the experiment was that the participants self reported how much sleep they had had the night before. This is a weakness as the sleep was not recorded scientifically. so if participants were simply to guess how much sleep theyd had it may be an incorrect value. This makes the results less reliable as the participants may not have been in the correct group so would make the results less accurate.

One strength of this experiment is that due to the fact it is a laboratory experiment and as it is very easy and cheap to conduct it is very easy to replicate. This is a strength as it means the results can be validated by other experimenters who can repeat the same procedure as it is easy to do.

Candidate 4 evidence

Discussion

As you have seen from the results section, once the results were analysed a clear picture came out on how chunking improves short term memory. The mean number remembered by each group were, condition 1 (easy to chunk) was 21.75 and condition 2 (hard to chunk) was 9.75.

From this experiment, it is clear that chunking helps improve short term memory by a noticeable amount. The results show a strong increase of the letters remembered when participants used chunking to help them store the letters in short term memory. This relates back to and supports the multistore memory model showing that short term memory is a store that has a limited capacity and a short duration. This study completely supports Millers magic number 7 because although the number of letters remembered on average were 21.75 and 9.75, this is equal to 7 groups of letters for the easy to chunk condition and 3 groups of letters for those in the difficult to chunk groups of letters. In fact, it also shows that even fewer than 5 pieces of information can be remembered if the task is difficult.

The findings are in agreement with the research done by DeGroot in the study of chess players. They found that experts could easily chunk with material they knew well. In the current study, letter groups such as BMW and BBC were used. Most people are very familiar with these and so would find the letters easy to chunk.

Finally, the findings also agree with Bower and Springston. The same method was used by using letters that were the same for each group but put together in different groupings. They found that participants remembered much more of the easy to chunk letters. This is very similar to the current study as the results also showed a big difference between the groups.

Overall, the research seemed to go well, and the procedure and timings worked out well. An overall evaluation of this research is that overall, the research proves what the theory claimed but some weaknesses about this study include issues with demand characteristics. These are when people know they are taking part in an experiment. In this study, participants started to ask questions at the start of the study and realised that some might have different sheets. This is a problem because it might make the participants act unnaturally and that could affect the way they complete the tasks. Also, it might have been better to do the study later in the day. It took place in the morning and participants might not have felt awake enough to do the task as well as they could have. People often don't do as well at this type of task in the morning. Also, other variables could be whether the participants ate breakfast or got enough sleep, which could both negatively affect the research. However, the research is likely to be valid as the method was close to Bower and Springston's.

These findings could be used in real life by teaching children from a young age how to chunk items in their memory because it could help them in the future with education. Even in their adult life at work, this skill could be useful to them. If students were taught about chunking from the start of school, it could have a positive impact on revision and taking information in in class. This could then help with the recall of information during tests and assessments which could bring the students grades up.

Conclusion

In conclusion this piece of research shows the effects of chunking on short term memory and how it positively increases the amount of information that can be held in short term memory. It proves the theory that was proposed correct and shows clearly the magic number seven. The research was carried out in a lab environment with control over variables and showed that the participants did use chunking when they could.