

# Lab Report Example 1 (62%)

This is an actual lab report from 2006, submitted by a second year student. First, the lab report is reproduced as it was submitted by the student. Next, it is reproduced with comments and changes to the text which are highlighted for you to compare with the original submission. I would award this report a mark of **62%**. There is an explanation of this mark at the end.

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**Is it possible that information given to male and female participants before they are asked to read a passage effects the number of items they recall on a subsequent unexpected recall test.**

## **Abstract**

In order to investigate whether pre-event information results in priming, and therefore alters free recall test scores, male and female participants were either informed the passage of information they would receive was easy, difficult, or were told neither and therefore acted as a control. The resultant data was analysed using a two way independent measures ANOVA and post hoc tests were carried out to look for areas of interest. It was found that there were no significant gender differences in priming and type of pre-event information had a slight significant effect on scores on the free recall test. The effect of both these variables interacting together was found to be insignificant. It was concluded that the results from this study did not show a truly significant effect but due to some of the problems that arose in the study final conclusions regarding this question should not be made until further investigations have occurred.

## **Introduction**

This study is being carried out to investigate whether or not manipulating the information given to participants before a passage of information effects the number of items they are able to recall in a subsequent test. More specifically the question is whether or not telling participants a passage of information will be easy or difficult to comprehend effects the ability to recall information from the passage and investigate any differences in recall between males and females. This question involves the notion of priming which is defined by Poldrak et al (1999, cited in Eysenk and Keane, 2005) as facilitation or biasing of performance as a result of information given regarding stimuli in the task. This may have interesting social implications for memory as the information may cause individuals place expectancy on their own performance. For example it may make individuals more determined to succeed or reduce their motivation and hence affect performance on the recall test. It is important when designing such a study to consider the work of Srinivas (1993) who concluded that priming only occurs

when the modality the stimuli are presented in remains constant throughout the study and so this must occur in order to successfully investigate priming.

Tulving, Schacter and Stark (1982), show that priming can be seen to occur when participants are required to learn a list of rare words and later when given word fragments to complete. They could do so faster with previously learnt words than those that were not, this shows that memory has been affected by previously learnt information. This study and others like it show that previous information can indeed affect later performance on tasks. These tasks, however, appear to be rather abstracted from the events that occur in everyday life and it is important to investigate whether priming occurs in a context with greater ecological validity. An extension to this, which will be considered, relates to whether there are gender differences in priming. Herlitz, Nilsson and Backman (1997) found no differences in performances of males and females on tasks relating to priming however these studies were also novel compared to everyday life and so it is important to reconsider the possibility of this difference in a context closer to real life.

There is a large body of research into the ways in which post event information can effect and distort memory but less into the ways in which pre-event information might do this. Loftus and Palmer (1974) found that participants responses to post event questioning could be effected by the way in which a question, regarding the events in a video of a car crash, was worded. This study and other like it into eyewitness testimony are important to consider as they test memory in settings with high ecological validity and this is something this study will attempt to replicate. Graf, Squire and Mandler (1984) moved on from the work of Tulving, Schacter and Stark (1982) by showing that priming can occur through exposure to words in the absence of being told to learn them. It was found that a priming effect occurred when participants were required to recall words which they were previously asked to rate in terms of how much they liked them. Despite this important finding Graf, Squire and Mandler (1984) did not investigate whether word rated as liked had a greater or lesser priming effect than those rated as disliked. This study attempts to address this by investigating whether or not performance on recall tests differs if participants are told the stimulus material will be difficult or easy to understand.

At this point it seems reasonable to hypothesise that priming will occur and therefore there will be differences in performance on recall tasks depending upon the pre-event information provided. Despite this it is not possible to make predictions into which direction these differences shall arise as there is currently little research in the area. There appears to be no reason to predict differences between the effects of priming and gender however this will be investigated as it may provide new insights to research and help interpretation of any differing performances.

## **Method**

### Participants

The participants in this study were an opportunistic sample of 45 individuals (Mean age (years)= 23.2, s.d.= 6.7) which consisted of 21 males (Mean age (years)= 23.9, s.d= 7.02) and 24 females (Mean age (years) = 22.6, s.d= 6.5) living in the south east of England. The participants volunteered to take part in the study and remained naïve to the purpose of the experiment and its hypotheses.

### Apparatus

The resources needed for participants to complete the study were an introductory paragraph describing the study (see appendix 1), a passage of information, in this case an 'extract' from an educational text book (see appendix 2), a distraction task consisting of maths problems (see appendix 3). These were used in order to remove the recency effect so information from the passage is not still present in short term memory and understanding of the text can be tested. Participants also required a sheet with questions relating to the text (see appendix 4).

### Procedure

Before the main study took place a pilot study was carried out on two participants for each of the two experimental conditions to check that the passage, instructions and questions were appropriate and could be understood. Looking at this study it became clear that a control group would be needed to act as a baseline for comparing the effects of the pre-event information so one was added to the procedure of the main study.

Participants were randomly approached and asked to participate in the study. If they agreed they were taken to a quiet place and given one of three of the introductory paragraphs depending on which group they were randomly assigned to, one of the two experimental conditions or the control. The three different groups were each provided with a different cover story one which stated that the text was too difficult for the level stated, one too easy for the level stated and the control group that the text is of the appropriate level. In this passage participants were also told that they had the right to withdraw at any time and that their information and data collected would be kept anonymous. Participants were then given the passage of information to read and asked to read it carefully. Once they had done so the passage was taken away from participants and they were asked to complete maths problems for a period of 30 seconds (Parkin, 2001) to account for the recency effect. After this period of time participants were given a list of 10 open ended questions relating to the text, which they were required to answer, in order to test recall. Once participants had completed the questions they were thanked for taking part in the study and given a debriefing statement (see appendix 5) in which the purpose of the experiment was explained to them.

### **Results**

In order to examine the data for differences between results when different pre-event information was given to males and females a two way independent measures ANOVA will be carried out followed by post-hoc tests in order to determine where the differences and similarities in the data lie. Tests carried out on the data previous to this analysis showed that the data is not normally distributed ( $D(45)=0.221, p<0.001$ ,  $z\text{-skew}= 3.06$ ,  $p<0.01$ ,  $z\text{-kurtosis}= 2.40$ ,  $p<0.05$ ) and therefore the results of the ANOVA need to be taken with caution. It is also important to note that the assumption of homogeneity of variance has not been met,  $F(5,39)=2.58$ ,  $p<0.05$  and therefore when carrying out post-hoc tests the Games-Howell procedure must be used. A transformation was carried out on the data and this did not correct the problems with normality so the original data will be used and results interpreted with caution.

Examining the mean scores on the recall test, shown in figure 1, appears to show that there are some differences in the scores obtained depending on the pre-event information given to the participants. It can be seen looking at the graph below that the standard error bars for the means in the difficult and basic conditions do not appear to overlap and therefore there may a significant difference between the two. The same appears to be true when comparing the control group with the hard group. This does not appear to be the case, however, when it comes to looking at the basic conditions in relation to the control as the standard error bars overlap.

Figure 2 does not appear to show that there will be any differences in the scores obtained by males and females as the standard error bars in each condition overlap, however there may be an exception to this in the basic group where male participants appear to have achieved higher scores.

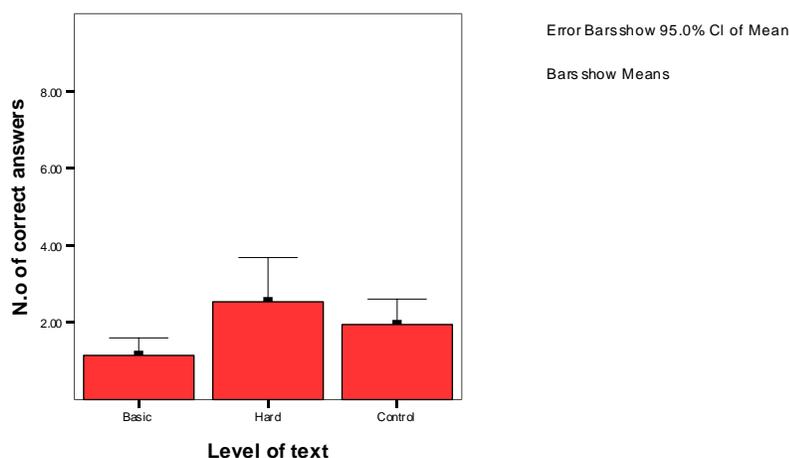


Figure 1 shows the mean scores obtained by the participants at each of the levels of text.

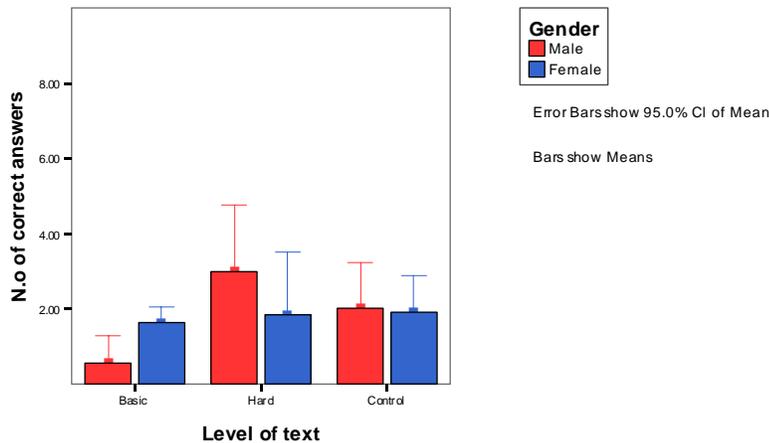


Figure 2 shows the mean scores obtained at each level of the text for the male and female participants in the experiment.

Conducting the two-way independent ANOVA on the data identifies the first main effect to be significant,  $F(2,39) = 3.15$ ,  $p = 0.05$ , and therefore the level of difficulty, participants were told in the pre event information, appears to make a significant difference to scores obtained in the recall test. The second main effect is non-significant,  $F(1,39) = 0.03$ ,  $p > 0.05$ , and hence it can be concluded that there is no effect of gender on the number of items recalled. The interaction between the gender of the participant and the pre event information, the 'level of text', is a non-significant one,  $F(2,39) = 2.17$ ,  $p > 0.05$ .

The multiple comparisons carried out by the Games-Howell test appear to show that the significant main effect, that occurs when comparing 'level of difficulty' and score, is present due to differences in scores when participants are told that the text will be difficult and when they are told that the text will be easy, not between the experimental groups and the controls. Despite this effect between the two levels is not significant at  $p < 0.05$ , in this case  $p = 0.62$ .

It therefore seems reasonable to make the assumption that there are not any significant main effects that can be inferred from this data. The main effect between 'level of difficulty' and score ( $F(2,39) = 3.15$ ,  $p = 0.05$ ) needs to be examined with caution, as stated earlier, because the data does significantly differ from normal and homogeneity of variance is not met. It is the latter which required the use of the Games-Howell procedure to be carried out and therefore this which is likely to have distorted the main effects.

## **Discussion**

The main findings of this study do not appear to support the prediction that there would be significant differences in scores due to the different pre-event information given, which would therefore mean that different priming affects scores on a memory recall test. It has also been shown that, as hypothesised, there are no effects of gender on the number of items that could be correctly recalled.

This second finding supports the work of Herlitz, Nilsson and Backman (1997) in finding that there are no significant differences in priming effects between men and women. It can therefore be inferred that even when testing memory in a way which bears a greater relation to real life, than in the studies carried out by Herlitz, Nilsson and Backman (1997), there are still no gender differences in priming. This study, unlike that of Tulving, Schacter and Stark (1982), appears not to show effects of priming on memory to be altogether significant. Despite this it should be considered that there were differences in the scores obtained due to the information received prior to the experiment showing that priming appears to have an effect on scores obtained on a free recall test. Although the results are not significant this study does successfully address the issue raised regarding the Graf, Squire and Mandler (1984) experiment in which there was no investigation into the content of the memory priming.

This study may have theoretical contributions as it provides a study, with quite high ecological validity, regarding the effects of pre-event information given to people and adds a new perspective to the real world memory studies such as the work carried out by Loftus and Palmer (1974) into eyewitness testimony. It may be possible that the events in peoples' lives prior to witnessing an event affect the focus of their attention and what they notice. This may also be considered a real world implication and differences in scores on recall tests, due to information received in priming, may be useful in finding ways to help people with poor memory remember things. Informing people that items are easy to remember and that they will have no problem in doing so may be enough to stimulate their memory and help them concentrate on remembering things rather than worrying they will fail. This may also have implications in circumstances such as in schools where telling pupils they are capable of the work they are doing may make them more confident at performing in tests and in front of the class.

One of the reasons why the results of this study may not be significant is due to the difficulty and the complexity of the task in the experiment. Free recall is very testing on memory particularly when participants were not explicitly told they would be given the memory test. Looking at the work of Graf, Squire and Mandler (1984) it can be seen that for normal participants recall was best when participants were asked to recognise answers. It may be useful, when carrying out this study again, to use multiple choice questions when testing recall making the task less difficult. One of the major problems when analysing the results arose

from the data collected and this limited the conclusions that can be drawn. It would be important to overcome this if this study was carried out again and it may be cured by the change in methodology stated earlier or by recruiting a larger number of participants to complete the study.

It can be surmised that analysing the results from this study and, taking into consideration, the work of others that gender has no effect on the scores obtained on a recall test. Despite the fact that the main effect between the pre-event information given and score being nearly non significant it can not be definitively concluded that there is no relationship between the two. Taking the evidence for priming from previous studies and the difficulties with the data into account further investigations need to be carried out before a final judgement is made.

### **References**

Eysenk, M and Keane, M (2005). Cognitive Psychology. Hove, Psychology Press Ltd.

Graf, P. Squire, LR and Mandler, G (1984) The Information that Amnesic Patients do not Forget. [\*Journal of Experimental Psychology Learning Memory and Cognition\*](#). Jan; 10(1):164-78.

Herlitz,A. Nilsson, LG and Backman, L (1997) Gender Differences in Episodic Memory. [\*Journal of Memory and Cognition\*](#). Nov; 25(6):801-11.

Leet, LD. and Judson, S. (1982) Physical Geology, Kauffman 6<sup>th</sup> edition. Prentice-Hall.

Loftus, EF. and Palmer, JC (1974) Reconstruction of Automobile destruction: An example of the interaction between language and memory. [\*Journal of Verbal Learning and Verbal Behaviour\*](#), 13, 585-589.

Srinivas, K (1993) Perceptual Specificity in non-verbal priming. [\*Journal of experimental psychology. Learning, memory, and cognition\*](#) vol. 19, n°3, pp. 582-602

Tulving,E. Schacter, DL. and Stark, HA (1982), Priming Effects in word fragment completion are independent of recognition memory. [\*Journal of Experimental Psychology: Learning Memory and Cognition\*](#), 17, 595-617

Appendices have been edited out

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**The same report is now reproduced with comments and corrections to explain why the mark of 62% was awarded.**

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**Is it possible that information given to male and female participants before they are asked to read a passage effects the number of items they recall on a subsequent unexpected recall test.**

**Abstract**

In order to investigate whether pre-event information results in priming, and therefore alters free recall test scores, male and female participants were either informed the passage of information they would receive was easy, difficult, or were told neither and therefore acted as a control. A two way independent measures ANOVA showed that there were no significant gender differences in priming and type of pre-event information had a slight significant effect on scores on the free recall test. The effect of both these variables interacting together was found to be nonsignificant. The results suggest that gender and prior instructions did not affect memory performance. This contradicts ... etc.

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Comment [AF1]: You don't have to summarise all findings, just the ones relating to your hypothesis.

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Comment [AF2]: Not necessary. Start the report with what priming is, then talk about theories of why priming works and mention a relevant study or two.

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Comment [AF3]: What does this tell you about memory?

Comment [AF4]: This would have gone well right at the beginning.

Comment [AF5]: What does this tell us about the structure of memory.

**Introduction**

This study is being carried out to investigate whether or not manipulating the information given to participants before a passage of information effects the number of items they are able to recall in a subsequent test. More specifically the question is whether or not telling participants a passage of information will be easy or difficult to comprehend effects the ability to recall information from the passage and investigate any differences in recall between males and females. This question involves the notion of priming which is defined by Poldrak et al (1999, cited in Eysenk and Keane, 2005) as facilitation or biasing of performance as a result of information given regarding stimuli in the task. This may have interesting social implications for memory as the information may cause individuals place expectancy on their own performance. For example it may make individuals more determined to succeed or reduce their motivation and hence affect performance on the recall test. Srinivas (1993) concluded that priming occurs only when the modality in which the stimuli are presented remains constant throughout the study and so this must occur in order to successfully investigate priming.

Tulving, Schacter and Stark (1982), showed that priming can be seen to occur when participants are required to learn a list of rare words and later when given word fragments to complete. They could do so faster with previously learnt words than those that were not, this shows that memory has been affected by previously learnt information. This study and others like it show that previous information can indeed affect later performance on tasks. These tasks, however, appear to be rather abstracted from the events that occur in everyday life and it is important to investigate whether priming occurs in a context with greater ecological validity. An extension to this, which will be considered, relates to whether there are gender

differences in priming. Herlitz, Nilsson and Backman (1997) found no differences in performances of males and females on tasks relating to priming however these studies were also novel compared to everyday life and so it is important to reconsider the possibility of this difference in a context closer to real life.

**Comment [AF6]:** Did they have a big enough sample (i.e. enough statistical power) to conclude this?

**Comment [AF7]:** In terms of theory why would you expect gender differences? Do males and females have different memories?

There is a large body of research into the ways in which post event information can effect and distort memory but less into the ways in which pre-event information might do this. Loftus and Palmer (1974) found that participants responses to post event questioning could be effected by the way in which a question, regarding the events in a video of a car crash, was worded. This study and other like it into eyewitness testimony are important to consider as they test memory in settings with high ecological validity and this is something this study will attempt to replicate. Graf, Squire and Mandler (1984) moved on from the work of Tulving, Schacter and Stark (1982) by showing that priming can occur through exposure to words in the absence of being told to learn them. It was found that a priming effect occurred when participants were required to recall words which they were previously asked to rate in terms of how much they liked them. Despite this important finding Graf, Squire and Mandler (1984) did not investigate whether word rated as liked had a greater or lesser priming effect that those rated as disliked. This study attempts to address this by investigating whether or not performance on recall tests differs if participants are told the stimulus material will be difficult or easy to understand.

At this point it seems reasonable to hypothesise that priming will occur and therefore there will be differences in performance on recall tasks depending upon the pre-event information provided. Despite this it is not possible to make predictions into which direction these differences shall arise as there is currently little research in the area. There appears to be no reason to predict differences between the effects of priming and gender however this will be investigated as it may provide new insights to research and help interpretation of any differing performances.

**Comment [AF8]:** This introduction is a reasonable overview of past research but you're not giving the reader any sense of why these priming effects happen (i.e. theories of memory) and how your study will move these theories forward. Why would you expect a gender effect (are male and female memory systems different?), why would you expect your pre-instructions to have an effect, and what will these effects tell us about how memory works?

## Method

### Participants

The participants in this study were an opportunistic sample of 45 individuals ( $M = 23.2$  years,  $SD = 6.7$ ) which consisted of 21 males ( $M = 23.9$  years,  $SD = 7.02$ ) and 24 females ( $M = 22.6$  years,  $SD = 6.5$ ) living in the south east of England. The participants volunteered to take part in the study and remained naive to the purpose of the experiment and its hypotheses.

### Materials

The resources needed for participants to complete the study were and introductory paragraph describing the study (see appendix 1), a passage of information, in this case an 'extract' from an educational text book (see appendix 2), a distraction task consisting of maths problems

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(see appendix 3). These were used in order to remove the recency effect so information from the passage is not still present in short term memory and understanding of the text can be tested. Participants also required a sheet with questions relating to the text (see appendix 4).

### Procedure

Before the main study took place a pilot study was carried out on two participants for each of the two experimental conditions to check that the passage, instructions and questions were appropriate and could be understood. Looking at this study it became clear that a control group would be needed to act as a baseline for comparing the effects of the pre-event information so one was added to the procedure of the main study.

Participants were randomly approached and asked to participate in the study. If they agreed they were taken to a quiet place and given one of three of the introductory paragraphs depending on which group they were randomly assigned to, one of the two experimental conditions or the control. The three different groups were each provided with a different cover story one which stated that the text was too difficult for the level stated, one too easy for the level stated and the control group that the text is of the appropriate level. In this passage participants were also told that they had the right to withdraw at any time and that their information and data collected would be kept anonymous. Participants were then given the passage of information to read and asked to read it carefully. Once they had done so the passage was taken away from participants and they were asked to complete maths problems for a period of 30 seconds (Parkin, 2001) to account for the recency effect. After this period of time participants were given a list of 10 open ended questions relating to the text, which they were required to answer, in order to test recall of the information. Once participants had completed the questions they were given a debriefing statement (see appendix 5) in which the purpose of the experiment was explained to them.

### Results

~~In order to examine the data for differences between results when different pre-event information was given to males and females a two way independent measures ANOVA will be carried out followed by post hoc tests in order to determine where the differences and similarities in the data lie. Tests carried out on the data previous to this analysis showed that the data are not normally distributed ( $D(45) = 0.221, p < .001, z\text{-skew} = 3.06, p < .01, z\text{-kurtosis} = 2.40, p < .05$ ) and therefore the results of the ANOVA need to be taken with caution. It is also important to note that the assumption of homogeneity of variance has not been met,  $F(5,39) = 2.58, p < .05$  and therefore when carrying out post-hoc tests the Games-Howell procedure was used. A transformation was carried out on the data and this did not correct the problems with normality so the original data were used and results interpreted with caution.~~

**Comment [AF9]:** Far too brief. Describe these materials in detail: you should have sub-headings for your text 'extract' and the distracter task. We need to know how long the extract was, what were the maths problems like, give some examples. Ordinarily you don't put all of your materials in an appendix so you need enough detail here so that someone could replicate what you did. You also need details of the question sheet and some examples.

**Comment [AF10]:** The need for a control group should have been apparent without needing a pilot study.

**Comment [AF11]:** How was this achieved.

**Comment [AF12]:** How many people per group?

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**Comment [AF13]:** Again, more detail is required: you're too reliant on appendices and a person should be able to replicate the study more or less without needing to look at the appendices.

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**Comment [AF14]:** Common mistake: 'data' is plural so you should say 'the data are' or 'data were', only if you have a single datum, could you say 'the datum is'

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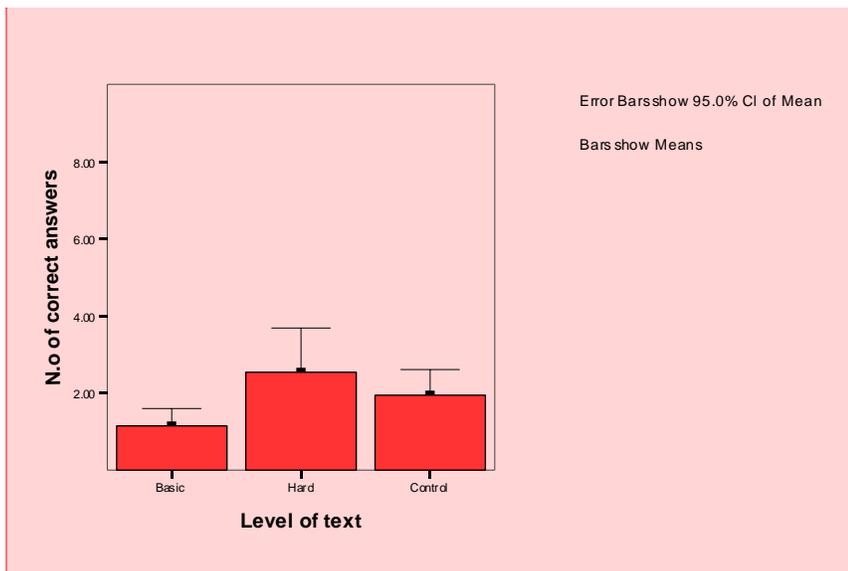
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Examining the mean scores on the recall test, shown in figure 1, appears to show that there are some differences in the scores obtained depending on the pre-event information given to the participants. It can be seen looking at the graph below that the **standard error bars** for the means in the difficult and basic conditions do not appear to overlap and therefore there may a significant difference between the two. The same appears to be true when comparing the control group with the hard group. This does not appear to be the case, however, when it comes to looking at the basic conditions in relation to the control as the standard error bars overlap.

**Comment [AF17]:** Actually your graphs show the confidence intervals and not the standard errors.

~~Figure 2 does not appear to show that there will be any differences in the scores obtained by males and females as the standard error bars in each condition overlap, however there may be an exception to this in the basic group where male participants appear to have achieved higher scores.~~

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**Comment [AF18]:** This graph isn't necessary because you can see these results from Figure 2.

Figure 1 shows the mean scores obtained by the participants at each of the levels of text.

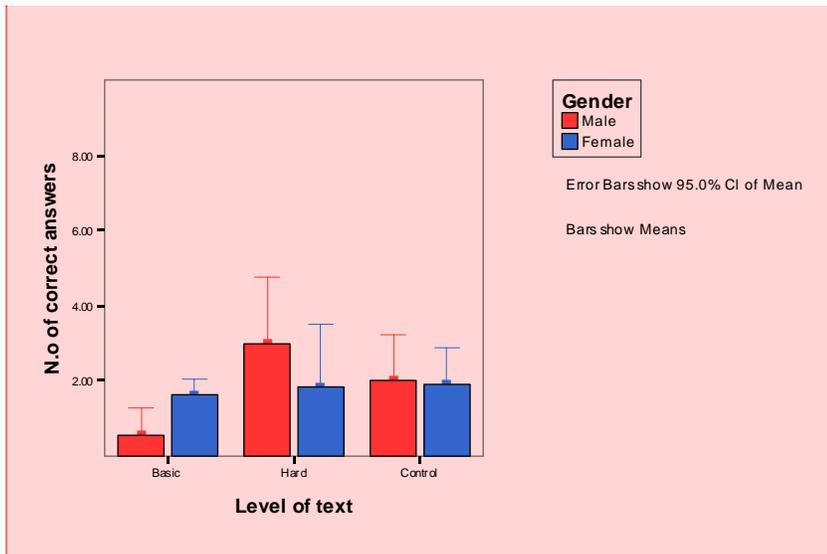


Figure 2 shows the mean scores obtained at each level of the text for the male and female participants in the experiment.

A two-way independent ANOVA showed a significant main effect of level of difficulty,  $F(2,39) = 3.15, p = .05$ ; the level of difficulty, participants were told in the pre event information, appears to make a significant difference to scores obtained in the recall test. The main effect of gender was non-significant,  $F(1,39) = 0.03, p > .05$ , and hence it can be concluded that there was no significant effect of gender on the number of items recalled. The interaction between the gender of the participant and the pre event information was non-significant,  $F(2,39) = 2.17, p > .05$ .

Games-Howell multiple comparisons on the main effect of 'level of difficulty' showed that when participants were told that the text will be difficult they remembered significantly more than when they were told that the text will be easy. There were no significant differences between the experimental groups and the controls. Despite this effect between the two levels is not significant at  $p < .05$ .

It therefore seems reasonable to make the assumption that there are not any significant main effects that can be inferred from this data. The main effect between 'level of difficulty' and score ( $F(2,39) = 3.15, p = 0.05$ ) needs to be examined with caution, as stated earlier, because the data does significantly differ from normal and homogeneity of variance is not met. It is the latter which required the use of the Games-Howell procedure to be carried out and therefore this which is likely to have distorted the main effects.

## Discussion

**Comment [AF19]:** You should use only this graph: the previous one isn't really necessary.

**Comment [AF20]:** What do the error bars show?

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**Comment [AF22]:** This section doesn't make sense.

The main findings of this study do not appear to support the prediction that there would be significant differences in scores due to the different pre-event information given, which would therefore mean that different priming affects scores on a memory recall test. It has also been shown that, as hypothesised, there are no effects of gender on the number of items that could be correctly recalled.

**Comment [AF23]:** In your results you said there was a significant effect.

**Comment [AF24]:** It is really bad science to predict a null result. Why did you measure gender if you didn't expect the effect to be significant?

This second finding supports the work of Herlitz, Nilsson and Backman (1997) in finding that there are no significant differences in priming effects between men and women. It can therefore be inferred that even when testing memory in a way which bears a greater relation to real life, than in the studies carried out by Herlitz, Nilsson and Backman (1997), there are still no gender differences in priming. This study, unlike that of Tulving, Schacter and Stark (1982), appears not to show effects of priming on memory to be altogether significant. Despite this it should be considered that there were differences in the scores obtained due to the information received prior to the experiment showing that priming appears to have an effect on scores obtained on a free recall test. Although the results are not significant this study does successfully address the issue raised regarding the Graf, Squire and Mandler (1984) experiment in which there was no investigation into the content of the memory priming.

**Comment [AF25]:** The problem with null results is that they can always simply be because your sample size is too small.

This study may have theoretical contributions as it provides a study, with quite high ecological validity, regarding the effects of pre-event information given to people and adds a new perspective to the real world memory studies such as the work carried out by Loftus and Palmer (1974) into eyewitness testimony. It may be possible that the events in peoples' lives prior to witnessing an event affect the focus of their attention and what they notice. This may also be considered a real world implication and differences in scores on recall tests, due to information received in priming, may be useful in finding ways to help people with poor memory remember things. Informing people that items are easy to remember and that they will have no problem in doing so may be enough to stimulate their memory and help them concentrate on remembering things rather than worrying they will fail. This may also have implications in circumstances such as in schools where telling pupils they are capable of the work they are doing may make them more confident at performing in tests and in front of the class.

**Comment [AF26]:** How? What does it tell you about theories of memory?

One of the reasons why the results of this study may not be significant is due to the difficulty and the complexity of the task in the experiment. Free recall is very testing on memory particularly when participants were not explicitly told they would be given the memory test. Looking at the work of Graf, Squire and Mandler (1984) it can be seen that for normal participants recall was best when participants were asked to recognise answers. It may be useful, when carrying out this study again, to use multiple choice questions when testing recall making the task less difficult. One of the major problems when analysing the results arose from the data collected and this limited the conclusions that can be drawn. It would be important to overcome this if this study was carried out again and it may be cured by the

**Comment [AF27]:** In reality there are other analyses that you could have done. Given the lack of effect of gender you could have looked only at the 'level of difficulty' using a Kruskal-Wallis test.

change in methodology stated earlier or by recruiting a larger number of participants to complete the study.

It can be surmised that analysing the results from this study and, taking into consideration, the work of others that gender has no effect on the scores obtained on a recall test. Despite the fact that the main effect between the pre-event information given and score being nearly non significant it can not be definitively concluded that there is no relationship between the two. Taking the evidence for priming from previous studies and the difficulties with the data into account further investigations need to be carried out before a final judgement is made.

### References

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Appendices have been edited out

### Some general points on reporting results in APA format:

- 'P' 't', 'F' and other test statistics must be in italics.
- Probability values should not have a zero before the decimal place: '.05' is correct, '0.05' is not.
- There should be spaces around '=', '<' and other symbols:  $p < .05$  is correct,  $p<.05$  is not.
- Mean is 'M' and standard deviation is 'SD' and both should be in italics.

Comment [AF28]: This discussion doesn't give me a sense of what your study told me about memory.

Comment [AF29]: The original references were not in APA format. See corrections below.

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## Marking Criteria

Why would I award 62%? Let's look at the criteria for 62, 65 and 68% from the course handbook (I have inserted comments to explain the mark in blue):

**"62, 65 and 68%:** This would be a basically good project. The design is basically sound and investigates a relevant research question. The write-up is fairly well organised, and clearly written (possibly with some minor lapses of clarity)."

The project was basically OK, and it did investigate a relevant research question. However, it wasn't particularly innovative. The write-up is basically clear, but there are lapses and a general lack of detail, which again puts this at the lower end of the grade.

"The introduction may not be as focussed as at higher grades but the correct basic material is included."

The introduction does have some good basic material, but there are some hypotheses not backed up by the literature review.

"The analysis should map onto the design reasonably well, and although results should be properly presented and analysed (appropriate statistical tests performed, clear descriptive statistics) there may be some trivial errors."

The analysis was OK, and generally not badly presented, there were no major errors, but the reporting was not APA format.

"The discussion should contain a competent attempt at relating the findings to previous theoretical and empirical research. However, the exposition of theoretical implications will be less than at higher grades. The student makes some attempt to constructively criticise their own and past research (both on methodological and theoretical grounds) but these may contain some trivial observations. Sensible suggestions for future research are made."

In general the project lacked theoretical insight and this again puts it at the lower end of the grade. There is some awareness of the limitations, but some of them are trivial. There aren't really suggestions for future work.

"Background material used for introduction and discussion does not go substantially beyond that mentioned on the reading list. Some errors in terms of adherence to project format guidelines."

There are errors to formatting, and the reading doesn't go beyond the reading list.

The main thing that puts this at the bottom of the grade though is the lack of theoretical clarity and the fact the project doesn't hang together well (i.e. there isn't a good sense of the rationale for the experiment being justified by the introduction or the discussion mapping onto the important theoretical issues that drove the research in the first place.