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[Food & Diet](https://assignbuster.com/essay-subjects/food-n-diet/), [Chocolate](https://assignbuster.com/essay-subjects/food-n-diet/chocolate/)

## Introduction

Research Topic
Eating chocolate has been associated for a long time with silhouette and weight problems, but recent research indicate that consuming chocolate can improve memory. Based on Jones and Wilson’s (2011) study, who found that eating chocolate two hours before taking math tests significantly improves scores, this report aims to investigate whether this information is valid, and if so, how does it relate with men versus women population.

## Research Question

What is the effect of eating chocolate upon memory?
Hypothesis
Based on the previous research that found that women are better than men on memory tests after consuming chocolate ( Wong, Hideky, Anderson & Skaarsgard, 2009), this report hypothesizes that eating chocolate improves memory, especially in women’s case, who score better results in tests than men after eating chocolate. The direction of this hypothesis is one tailed, as this report aims to work with a clear case, knowing that like this there are increased chances that the results of the investigation to be recalled.

## Significance of the study

The significance in this study consists in the fact that knowing whether chocolate improves memory can contribute to a general improvement of memory, which can help students with their exams, while eating chocolate to stimulate their mind.

## Method

Design
The current study is based on an experimental design, wherein one variable is manipulated for identifying if changes in one variable will affect the other variable, using controlled methods for testing the described hypothesis (Rusky & Putnik, 2007). In other words, the experimental design is used in this study for manipulating one variable, namely the test scores, identifying whether the test scores in mathematics will change after consuming chocolate.

## Participants

The participants were gathered from the academic environment, being all 3rd year students in the mathematic related academic fields. 50 men and 50 women studies were used for this study, with their ages varying between 21 and 22 years old. Their previous academic scores in mathematics were not considered as relevant for this investigation, nor the social background of each participant.

## Procedure

The first stage of the test consisted in giving a math test to the participants of this study, allowing them two hours to study principles, theories and exercises upon which the test was to be based on. The second phase of the study implied that the participants within this study were to be given chocolate two hours prior to a math testing, and in this time they had to study mathematic theories that they would have used in the test. The results from this test were next compared for identifying if the test scores have changed due to the chocolate consumption and how did they changed.

## Data Analysis

The first tests were gathered from each participant and evaluated by two experienced math teachers, passing through a double correction. The same procedure applied to the second tests. For each participant the results from the two tests were individually compared in order to observe what were the difference in the two tests (which were based on the same math theories, but having different exercises). An excel sheet was used for passing the scores that each student obtained in the first test (written down in one column) and the results obtained in the second test (written down in another column in the right of the test participant’s name). This allowed for a clear identification of how the results have changed from one test to another, based on chocolate consumption. A comparison between the men and women’s test results was applied also, using also the excel date comparison system, for creating graphics and pies showing the results of women in the two tests and the scores of men in the two tests.

## Results

The research was based on the t-test, which was chosen because of the fact that the research needed to compare two samples, with distinct results. As such, the t-test was employed for calculating the difference between the sample that took the math test without eating any chocolate and the sample that took the math test after consuming chocolate. In order to apply the t-test there was produced a null hypothesis, stating that there is no difference in the math test scores based on eating chocolate before the test. Analyzing the two samples gathered, there could be identified that the first sample, where chocolate was not used obtained a general mark of 7, 53, wherein in the second sample, the total score was 8, 93, a visible increase from the initial test. All participants in the both studies scored better in the second test, although in general, there was a visible increase in the women math scores, from the first test. Wherein men’s results increased with 0. 50 to 1. 02 in the second test, women’s test increased with 0. 80 up to 2 points in the second test. This indicates that women were more influenced by chocolate consumption before taking the math test, which increased their memorization level. The fact that all participants scored higher in the math test after eating chocolate indicates that the null hypothesis was rejected and that the initial hypothesis of the study was confirmed.

## Discussion

The conducted study shows similar results with the ones previously discovered in existent literature. Because the study hypothesized that people who eat chocolate two hours before taking a mathematics based test score better than when they do not consume chocolate before a math test, the results of the conducted test indicate precisely this. Moreover, the results of the two math tests incorporated within the study methodology show that women are more influenced by chocolate consumption, as their results from the second math test (when they ate chocolate two hours before giving the test) were much improved than men’s results, which were also improved, but not as much as women’s results were. This indicates that the study hypothesis is fully confirmed and accepted.

## Limitations of the study

The fact that there were used the same participants in the two math test can be a limitation, because the two tests were based on similar math theories and principles. This implies that while in the second test they applied the knowledge that they had already knew from the first test, and recap it for the second test, which is in itself a memorization technique (Anderson & Lowe, 2003). For improving the study, the participants should be exposed to new notions in each test.

## Future research

As stated in the beginning of this study, chocolate consumption is associated with silhouette and calories problems. Future research should investigate if students who use chocolate to help them memorize better weight more than students who do not use chocolate as a learning stimulant.

## Conclusion

Therefore, the results of the study totally confirmed the hypothesis of the study, as it indicated that when people eat chocolate before memory tests they score better than when they do not eat chocolate before such a test and that women’s results are much improved than men’s results after eating chocolate.

## Conclusion

This exercise, of writing a research report was useful and fun, placing me a laboratory like environment, where I had to imagine and invent sample, study participants, hypothesis, methodology and apply them to the studied subject. I consider that this experience will be beneficial for my future experience, increasing my review research skills.

## References

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