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| **Conclusions:** **My data and statistical analysis offer significant proof that there is a connection between color and short term memory. Through the t-testing, I was able to offer a significant amount of proof that there is a connection between colors and the mean score that was caused by each. For example, I was able to prove that there is a significant difference between the colors blue and orange and that the scores for each color were caused by chance, only by the color. The same results can be seen between yellow and orange, and between orange and green. This proves that color does impact the short term memories of humans. Going back to my prediction, I was proved mostly right, with the actual order being orange, which had the highest results, followed by blue, then yellow and lastly green, which had the worst results. Although many biases could have slipped into my experimentation, I did my best to eliminate as many biases as possible. In my testing, I was unable to reject all of my null hypothesizes, and if I was given the chance to repeat my experimentation I would have done things differently (see recommendations for details). Contributing factors such as time, place, and the number of volunteers can drastically alter experimentation. I would have liked to have a larger sample size in order to make the experiment increasingly reliable. The setting of the experiment was also hard to keep neutral, as different people get distracted by different things. The room that I chose to do my experimentation was perhaps not the best of places as people were constantly entering and leaving the room or talking in the background. I would have conducted the experiment in a totally quiet room with no surrounding noise whatsoever. "Time is of the essence" and for my experiment it certainly was! I would have liked to have allowed for more time between showing the flashcards and having the volunteers write down the words. This would have made my experiment even more reliable. I hope that someday, my experiment will motivate further discoveries concerning the affects that colors have on our learning abilities.** **Biases:**  **The prevention of biases in an experiment is crucial to its outcome. In order to eliminate all possible biases from my experiment, I did the following;**  **1. In order to prevent the previous learning abilities and age of the participants causing a bias, I decided to choose members of the junior class as my "victims" and I made sure that all the participants are currently, or were previously in at least one AP or honors class during their high school career.**  **2. In order to prevent gender causing a bias, I decided to have an equal number of males and females in my experiment.**  **3. In order to prevent culture and ethnicity causing a bias, I decided that on the answer sheet, I would have the participants identify their ethnicity, and that way, I could tell make a generalization about ethnicity groups and the results from such groups.**  **4. In order to eliminate time biases, I set the experiment up to take place at lunch on all days. Lunch is a good time to conduct the experiment as the participants will not be asleep and tired, like they would be if the testing had taken place earlier in the morning or later in the afternoon. Other time biases were eliminated by having the exact same schedule and timings for all the experimentation. The time between the showings of the words was exactly the same. The time to think about the words was constant and the time to write down as many of the words as possible was also kept the same.**  **5. Another bias would be the sharing of information between volunteers. In order to eliminate this bias, I stressed the importance of secrecy amongst the volunteers and asked them not to share any information at all with other participants. I also stressed the importance that the volunteers keep their eyes on their own papers and not look at any else�s answers. I hope that the students complied with my requests, although, I cannot be one hundred percent certain that they did.**  **6. In order to eliminate any surrounding biases, I asked other people in the classroom to be as quiet as possible whilst my experiment was taking place, and I also conducted all of the experiments in the same classroom.**  **Recommendations:** **No experiment is perfect, not even mine. That is why, if someone wishes to repeat or perhaps improve my experiment, I would recommend that that person should take the following advice;** **1. Test a larger sample size. Remember�the bigger the better. The more data that you have, the more reliable your analysis will be.**  **2. Test students of all grade levels. This will offer a better understanding of how color truly does affect short term memory.**  **3. Allow more time to pass between the showing of the cards and telling the volunteers that they can start writing the words down. This will give the students more time to either lose or retain words.**  **4. Find a quiet room to conduct the experiment. Silence is key!**  **5. If you choose to work with a partner, make sure that it is someone that you can trust and that you are compatible with. Take my advice seriously. I know what I am talking about !**  **6. Do not procrastinate. Time is a non-renewable source�don�t waste it!**      [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)][[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |