Independent Project

Title: Testing the relationship between eye color and sight

Purpose: This experiment will determine whether a person's ability to distinguish colors in low light is influenced by the color of their eyes.

Research question: Does eye color affect a person's ability to identify colors in low light? Does eye color affect our ability to see things?

Hypothesis: Brown eyes will have the best vision, blue eyes will be the second best, and green eyes will be the least.

Procedure:

1. I collected my sister, my boyfriend, and myself as test subjects. My sister has green eyes, I have brown eyes, and my boyfriend has blue eyes.

2. None of the test subjects or I use glasses or contact lenses, and we are all about the same age.

3. I bought construction paper in a pack of different colors, and I tacked the paper to a wall on the opposite side of a room. I made sure there was enough light in the room for everyone to see.

4. My boyfriend was the first test subject, so I took him into the room and placed him on the side farthest from the colorful paper.I took off the blindfold and instructed him to name the colors straight away, left to right, as soon as the room door closed.

5. I took notes on his responses. I asked him to name the colors once more after two minutes.

6. I repeated the same steps with my sister and myself.

7. I analyzed the results. I calculated the percentage of colors named correctly by each test subject at baseline and after waiting two minutes as well as graphing it.

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Results:

Color	Blue eyes	Green eyes	Brown eyes
Purple paper	Baseline: Yes 2 minutes: No	Baseline: Yes 2 minutes: Yes	Baseline: Yes 2 minutes:Yes
Blue paper	Baseline: Yes 2 minutes: Yes	Baseline: Yes 2 minutes: No	Baseline: Yes 2 minutes: yes
Green Paper	Baseline: Yes 2 minutes: Yes	Baseline: Yes 2 minutes: Yes	Baseline: Yes 2 minutes: yes
Yellow paper	Baseline: Yes 2 minutes: yes	Baseline: Yes 2 minutes: yes	Baseline: Yes 2 minutes: Yes
Red paper	Baseline: Yes 2 minutes:yes	Baseline: Yes 2 minutes: yes	Baseline: Yes 2 minutes: yes
Percentage:	90%	90%	100%

Discussion: After two minutes, Blue Eyes' percentage rate was 90% as he was unable to accurately read the purple construction paper. After two minutes, Green Eyes received a 90% as well for incorrectly reading the blue construction paper. All of the colors had 100% and were appropriately labeled for brown eyes. I got each color correct, but after two minutes, I got so close to mixing up purple and blue because of how similar they appeared. We all had really good scores, so I didn't observe any significant variations between the three groups. However, after two minutes, it becomes slightly difficult to see since your vision may have gotten used to the dark. Since both blue and purple appear similar in the dark, I think the mistake involving the green and blue eyes was caused by their rapid response. They claimed to be undecided between both colors when providing their answer.

Conclusion: In conclusion, my hypothesis of brown eyes having the best eyesight in this experiment was true. My prediction that those with green eyes would have the "worst" eyesight

was disproved when the findings showed that both blue and green eyes tied with 90% accuracy. Just by looking at every aspect of this research, I think that eye color actually has no impact on whether or not a person has good vision.