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Does Eye Color Affect Vision Acuity in a Variety of Light Conditions?

Eye color is a physical characteristic that varies from person-to-person. Due to a range of difference in pigmentation of the iris, people with different eye colors tend to see the world differently. For those with lighter eyes, it may be more difficult to see clearly in environments with certain light conditions or intensities. Throughout a person's life, they encounter several different forms of light ranging from natural sunlight to artificial lighting. In my research, I investigated whether a person's eye color influences their vision in artificial lighting compared to natural lighting. Preliminary results show that light did influence visual acuity. However, there was no correlation between eye color and light influenced vision changes. To assess vision, participants were asked to cover each eye and read a Snellen eye chart. This was completed a total of 4 times. Using two separate eye charts, each with a different color background behind the chart, participants were tested at 10 and 20 feet away from the charts. Each test was presented in a room with only artificial light, and outside of the building in natural light. This information can help individuals ensure that the change in vision, if any, caused by different kinds of light does not negatively influence their everyday life. In extreme situations those with eyes more sensitive to certain types of light could cause harm to themselves or others around them. Having this information about oneself is helpful to all people, not just those with a history of eye issues.