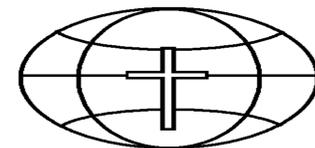




Analysis of Colour Blindness



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Introduction:

Color blindness or color vision deficiency is an inability of a person to see or differentiate color under normal conditions, its brought about the inability of the retinal cones (example the Red, Green, Blue) to perceive color in light and transmit that information to optic nerve.

The defect is a sex linked condition because the genes that carry photo pigments are carried on the x chromosomes and for the males who have only x chromosomes this affection is greater compared to females, the females has two x chromosomes hence can be carriers.

Apart from sex linked conditions color blindness can be caused by physical damage of the parts of the brain, optic nerve and the eye. For example, people with achromatopsia suffer from a completely different disorder, but nevertheless unable to see colors.

Color blindness is usually classed a mild disability, but there are occasional circumstances where it can give an advantage. Some studies conclude that color blind people are better at penetrating certain colors camouflages. Such findings may give an evolutionary reason for the high preference of red-green color blindness.

We suggest the hypothesis to be "most of the people are affected with blue-yellow color blindness".

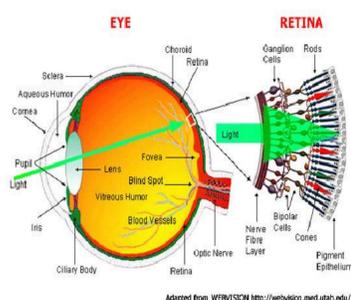


Image above shows a cross section of human eye and the rods together with Cones which are the affected areas by the color blinds.

AIM OF RESEARCH:

The aim of this research is to determine which color is more affected with color blindness.

MATERIALS:

The materials used are:

Ishihara color test: Is the sheet consisting of series of pictures of colored spots.

Specimens: These are were people from different regions from Tanzania

METHOD:

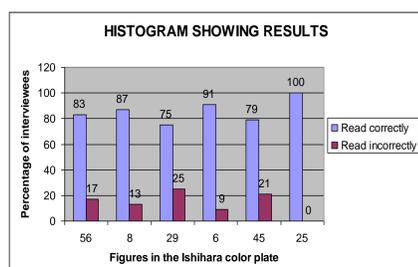
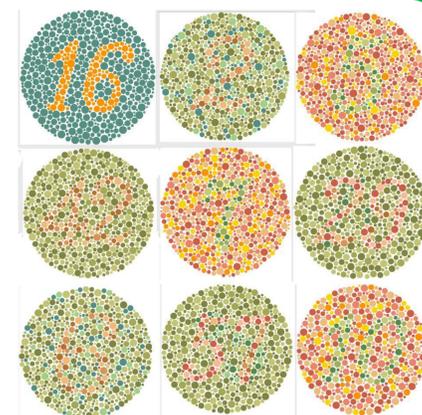
The method used in our research is interview. Interview is the face to face talk between a researcher and the interviewee inclusive of questions, answers and noting down data achieved.

PROCEDURES:

We approach our interviewees and presented our ishihara color sheet to one person at a go. Our ishihara color sheets consist of three rows and two columns of ishihara color plates, and then we asked them questions like "What number can you see in the top row left circle? Top row right circle?" "What number can you see in the middle row left circle? Middle row right circle?" "What number can you see in the bottom row left circle? Bottom row right circle?"

Results:

The experiment was successfully done in our school compound through interviewing the students, teachers, and the non-teaching staff. Through the experiment we managed to observe that 13% of the people in our compound are color blind and 87% of the people managed to read all the numbers on the sheet correctly. Of the people who failed to read all numbers correctly, most failed to read the numbers on the middle row of the left circle which contained the number "29". All the people managed to read correctly the bottom row or the lower row of the right circle. This enabled us to identify that most of the people in our compound are red-green color blind.



Numbers in the ishihara color plate	Number of people whom managed to read the figures correctly	Number of people who read the figures incorrectly
56	83	17
8	87	13
29	75	25
6	91	9
45	79	21
25	100	0

Conclusions:

Our hypothesis was that most of the people are affected by green-yellow color blindness, but through our research we found that in our area (school campus) most of the people have red-green color blindness. This show that our hypothesis was not supported by the results we achieved.

Our results show that in our campus, of the 13% of people who are colour-blind (that is, could not read all the numbers), most are affected by red-green colour blindness. Of the colour-blind people, most are females.

Most of the published work show that a number of people

Have red-green and blue-yellow color blindness but through our research at our school campus the red-green color blindness is dominant. From the published work males are affected most by color blindness but at our campus females are mostly affected compared to males.

In our academic field involves carrying out experiments (practical activities) which involves observations of colors such as red, green, and others might be a problem to color blinds, also this proves why drivers at the horizontal traffic lights get accidents because of red-green color blindness.

To move on with our project we wish to encourage people to use the color blind correctors such as eyeborg (the eyeborg is the instrument which helps people with color blind to be able to see and differentiate colors correctly). For traffic users our project wishes to have the traffic light colors improved to favor the color blind.

Inspite of the results obtained the method used seemed to favor the literate people and some people had poor response, ideology about our research.

REFERENCE:

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Further information:

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