

The Effect of Interpupillary Distance on Peripheral Vision

Reich, Chloe

The purpose of this experiment is to find out if there is a relationship between interpupillary distance and peripheral vision. This research is important because people need to be informed of the limitations of their vision and the possible reasons for such limitations. This research could also provide an easy and inexpensive way to test peripheral vision. Test subjects consisted of consenting students from Sasakwa High School. I came up with a device to measure peripheral vision. The device was placed four meters from a wall that was used as a focal point. I slowly moved a small piece of colored paper along a graduated scale starting behind the subjects head and moved it forward until the subject was able to identify it. Once the subject identified the object a measurement was taken off the graduated scale. A measurement of zero meant that the participant was able only see at a 90 degrees to their line of sight. If the measurement was negative then the participant could see greater than 90 degrees to their line of sight indicating a greater peripheral vision field. I then measured the interpupillary distance using a metric ruler. The interpupillary distance and peripheral vision measurements were then compared to find any possible relationships. There was a definite correlation between interpupillary distance and peripheral distance. For every 0.3 cm closer a participant's pupils were, they gained one peripheral acuity unit. This data suggests that subjects with more narrow interpupillary distances have less peripheral vision compared to others with greater interpupillary distances. The method for quantifying the limit of an individuals peripheral vision, as developed for this experiment, is an accurate, easy, and cheap way to measure peripheral vision.

Awards Won: