



Colorado Science and Engineering Fair

2024 Team Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: All Boxed Up: The Effects of Prescription Eyewear on Peripheral Vertigo

Team Leader's Name: Maya Rokhlenko

Team Member 1: Olive Spohn

Team Member 2:

School and City: Flagstaff Academy, Longmont

Sponsor's Name: Lauren Liedtke

Category: Biomedical & Health Sciences (BMED)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Peripheral vertigo is an effect that can lead to extreme side effects and potentially dangerous situations. Peripheral vertigo is caused by a miscommunication between the inner ear and peripheral vision. Further, it has long been known that peripheral vision is distorted by an individual's use of prescription eyewear. Interestingly, there was little to no research available that analyzed any connection between the topics. We aimed to see if peripheral vertigo is worsened or otherwise affected by the use of prescription eyewear - and dive in and understand why that matters.

To analyze the effects of prescription eyewear on peripheral vertigo, there needed to be a way to simulate peripheral vertigo. A booth made of PVC pipes (4x2x6ft) was created. Checkered fabric and a fixed point for participants to focus on were used. A total of about 60 participants were tested in the study. The data was analyzed through recorded footage, and results were drawn.

The scientists found that those with prescription eyewear were most affected by the experiment. Participants who had eyewear both physically swayed more and experienced more ulterior symptoms. This is important because if participants with prescription eyewear experience the effect of peripheral vertigo more in a simulated environment, they will also be more likely to experience it out in the real world. This means that those with prescription eyewear are more likely to experience peripheral vertigo as a medical condition later in life. This awareness can be crucial to those who wear corrective eyewear.

We hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. We also attest that the above properly reflects our own work.

Team Leader's Signature: Maya Rokhlenko

Date: 3/1/24

Team Member 1's Signature: Olive Spohn

Date: 3/1/24

Team Member 2's Signature: _____

Date: _____

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with your Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.