

Keke Roberts
3 week Richter Scholar
with Naomi Wentworth, Psychology

What do eye movements tell us about the mind?

My Richter project was about the relationship between eye movements and the human brain and behavior. Belen Martinez-Caro Aguado and I were the two Richter's in Professor Wentworth's lab. During the first week or so, we learned the basics of eye movements. We read many papers about theories and studies that have been done. The first week was all about learning as much as possible about eye movements in hopes that we'd find a topic that interested us. Then, we started to come up with our own ideas for pilot studies.

During the second week, we designed our pilot studies. Although Belen and I were in the same lab group, we ended up doing different studies because we were interested in different topics. Hers was about distractions and mine was about scan paths and art. The scan path theory states that everyone has a specific gaze sequence that's unique to them when they're first exposed to a stimulus. Then they reapply that same specific, gaze pattern on subsequent stimuli. As I designed my experiment, I talked to my former art professor from last semester to learn more about abstract art so I could decide how exactly I wanted to incorporate it into my study. Back in the lab, Belen and I also spent time learning how to use the eye tracker machine. We used that machine to track and record our participants eye movements as they completed our study.

We spent the third week focusing on our pilot studies. The study I designed examined the scan paths and eye movements of people with different levels of experience as they observed pieces of abstract art. I predicted that people with more experience in art, such as art professors, would have different scan paths and eye movement patterns than inexperienced Lake Forest College students when observing art. I spent the third week setting up my study, testing people, and analyzing results.

From the data that I collected, I was able to observe some trends in the eye movements and scan paths of the participants. However, because this was a pilot study, it was difficult to draw any conclusions. Overall, my Richter Scholar experience was really great and I loved learning about eye movements, psychology, and human behavior. I am thinking about returning to this lab in the fall to continue my studies on eye movements.