



Bridget Armstrong, Psychology

Effects of Using Head Mounted Display Helmet for Virtual Reality Distraction on Cold Pressor Pain in College Students

Faculty Mentor: Dr. Lynnda M. Dahlquist

Immersive Virtual Reality (VR) has gained prominence in the clinical psychology literature as a powerful distractor from pain. Although this new technology has been proven effective in numerous studies, it can be very expensive and thus is not routinely used in clinical settings.

This study examines one aspect of VR technology that is thought to increase distraction aspect of VR and thereby enhance pain tolerance—the use of a head mounted display helmet. The results from this study will be used to help determine the features of VR technology that are crucial for pain distraction.

How did you find your mentor for this project?

I had Dr. Dahlquist for a class first semester freshman year. I made a point to sit up front in class and go to office hours even if I just wanted to talk about some topic I thought was interesting. That spring semester I started working in Dr. Dahlquist's pediatric psychology lab.

How did you know this was the project you wanted to do?

My freshman year a senior in my lab was doing an honors thesis, and I was inspired to do a project like hers, but fix the things I thought could have been done better.

Do you get course credit for this work?

I am getting 4 credits for PSYC 498 (honors thesis research) for the fall semester and PSYC 499 (honors thesis) for the spring semester.

How much time do you put into it?

I started researching ideas for my project in fall 2007, although at that time I wasn't enrolled in the honors thesis course. Last year I was doing about 3 to 4 hours a week for my thesis. Now this fall I do at least 10 hours a week (in lab) not counting time I spend prepping for lab. I'm expecting that amount of time to increase in the spring semester.

You have a \$1,500 [Undergraduate Research Award](#) from UMBC for your work. How did you hear about this program?

An undergraduate in my lab received the award for a similar project a few years before. The graduate students let me know about the program and helped me construct my thesis and apply for the award.

Was the application difficult to do?

The application itself wasn't too difficult, but it really made me fine tune my project. I had to know the background and purpose of the research very well in order to defend why I needed funding.

How much did your mentor help you with this?

The graduate students in my lab were really very helpful in the small steps, and my mentor edited and made me defend my topic in order to be sure I knew what I was doing.

What is your advice to other students about getting involved in research?

Ask your professors what they are researching. Sit up front of classes, ask questions, go to office hours and make sure they know you.

What has been the hardest part about your research?

Organization. The project has a lot of different facets. IRB certification, writing my paper, budgeting, organizing subjects all are very different parts of the process that can be tedious and difficult to juggle all at once.

What was the most unexpected thing?

My equipment breaking and putting me behind schedule. That was just unfortunate circumstance I guess.

How does your research relate to your work in other classes?

My research helped me especially in my statistics classes (SPSS in particular). I had already been taught a lot of the material by graduate students one on one, so going over it in class was more like a refresher. It was also helpful having the skills to be able to read a lot of academic articles and know that I could understand and handle the content. That was reassuring especially going into some 400 level classes. I suppose it's mostly the skills I've learned doing the research more than the content that has helped me in other areas.



DeLeon L. Gray, Interdisciplinary Studies

"Social Predictors of Academic Achievement Motivation in Adolescent Mothers"

Faculty Mentor: Dr. Charissa Cheah, Department of Psychology

This study focuses on social support received as a predictor of the academic achievement motivation of approximately 100 adolescent mothers ranging from ages 15-19 in Baltimore City. The quality of the relationship between the adolescent mother and her biological mother is expected to be the key predictor of academic achievement motivation. The data for this study will come from an ongoing study at UMBC entitled project ADVANCE. Adolescent mothers will be recruited from the Paquin alternative school for adolescent mothers and various hospitals and clinics in Baltimore, MD. The results from this study will be used by policy makers in assessing and funding current and future educational programs for the educational attainment of adolescent mothers.

Read more on [Deleon's success!](#)