DEPARTMENT OF PSYCHOLOGY  
COLLEGE OF ARTS AND SCIENCES  

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 03/01/2017

PROJECT TITLE: Improving Driving Performance of Teens with ADHD

Professor Jeff Epstein  
CCHMC 2216  
Division of Behavioral Medicine and  
Clinical Psychology  
Cincinnati, OH 45229-0054  
Tel: (513) 636-8296  
Fax: (513) 636-0755  
Email: jeff.epstein@cchmc.org

Project Description

The proposed research will test the efficacy of the FOcused Concentration and Attention Learning (FOCAL) intervention, which targets reducing the number of extended glances away from the roadway, among teens with ADHD. The PC-based FOCAL training provides teens with an operational understanding of the dangers of extended glances away from the roadway and trains them on limiting the length of their glances. Tested with typical teens, FOCAL significantly attenuates the number of extended glances away from the roadway. To date, FOCAL has not been tested in teens with ADHD. Because of the magnitude of ADHD-related driving deficits and their difficulty with generalization of skills to natural environments, we have enhanced the FOCAL intervention (now termed FOCAL+) to include multiple training sessions and to integrate practice on a driving simulator with immediate feedback regarding extended glance behavior. In the proposed randomized trial, teens with ADHD will be randomly assigned to receive either FOCAL+ or a sham placebo group. Immediately after 1 month of training sessions and 4-, 8- and 12-months post-training, teens’ driving skills will be assessed using a driving simulator, a road test, and driving records. Using this data, we will examine the short- and long-term efficacy of the FOCAL+ intervention on 1) decreasing rates of extended glances away from the roadway among teens with ADHD, and 2) improving driving performance among teens with ADHD. The public health impact of improving the driving behavior of teens with ADHD cannot be overstated. MVCs are the leading cause of death among teens. The 2- to 3-fold increased risk of MVCs among teens with ADHD significantly contributes to these figures. By targeting teens with ADHD, we are targeting one of the highest risk groups of drivers on the road. Were our interventions to normalize driving among teens with ADHD, the potential impact on rates of MVC injuries and deaths would be substantial.
Interested students will be involved in administering research assessments with research participants including intelligence and cognitive testing. Students will also help with coding driving data. In particular, each participant has a camera installed in their car. Ten second events are recorded daily and these videos require coding. The trainee will be supervised by Dr. Epstein and a post-doctoral fellow. Mentors will meet with the student regularly.