VOLUME 1 ISSUE 3

Center for Studies of Addiction Newsletter

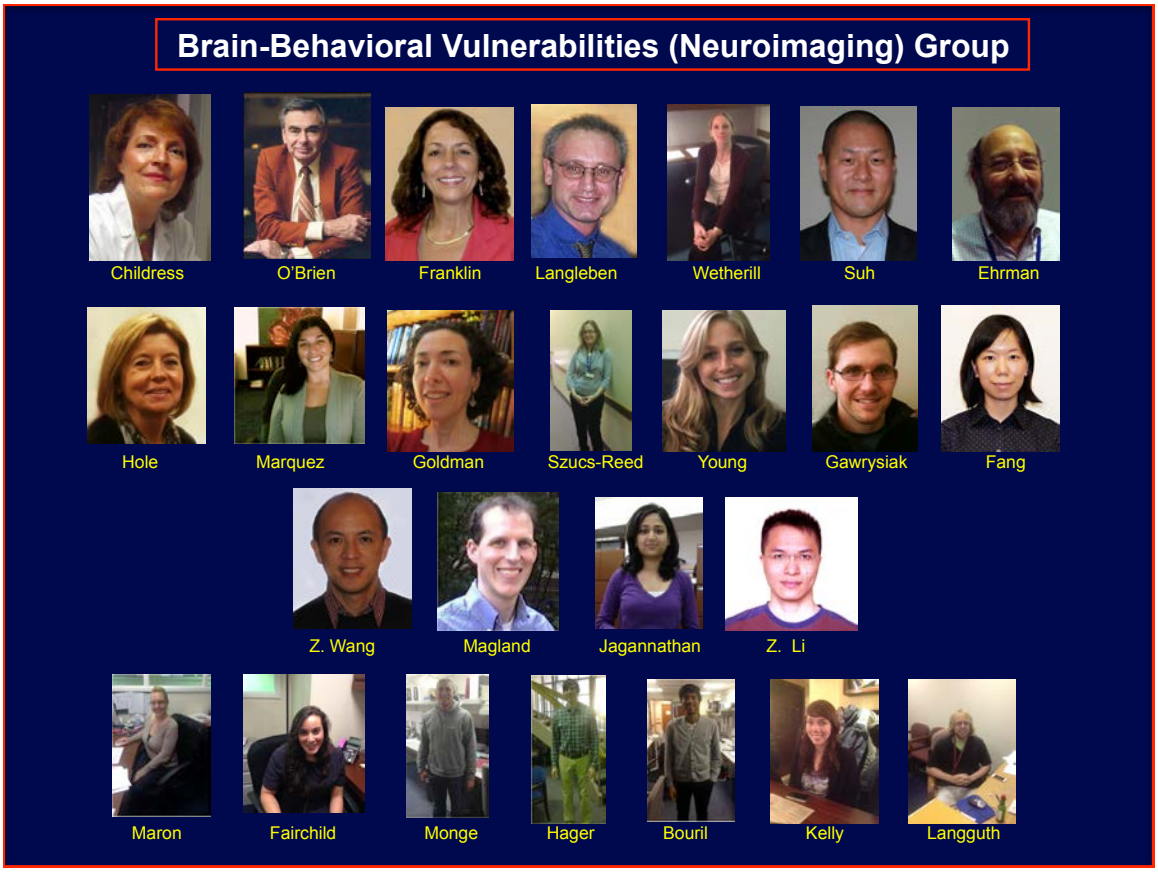
November 2014

IN THIS ISSUE

A MESSAGE FROM DR. ANNA ROSE CHILDRESS

The Brain-Behavioral Vulnerabilities research group often presents colorful images that reflect our attempts to discover "what is not working quite right" in the addicted brain -- toward finding treatments that will help our patients achieve a sustained recovery. Our days, our nights (and sometimes even our dreams!) – are filled with these luminous, shifting brain-scapes. Like over-worked fortune-tellers, we stare intently at our colorful "tea leaves" until our eyes are tired and our necks are sore – looking for signs to guide us, and our patients, into the future.

Though "fortune-telling" with brain images may sound like a lonely occupation – something that happens alone, in a semi-dark room – it is anything but! The journey to our tea leaves is filled with critical human interactions: our patients stimulate our hypotheses, tasks, and study designs; our physicians, nurses, clinicians, coordinators and research assistants recruit, screen, diagnose, scan and treat our patients, and our extraordinary technical team turns tiny shifts in magnetic fields into…magic: glowing beacons, full of promise! Maybe **this** one holds a new answer, a better way forward?! "Hurry -- Come look at this one!" We darken the room a little, and draw closer – together -- the better to see. Please join me in thanking all those who enable this magic. ARC



B-B V Group

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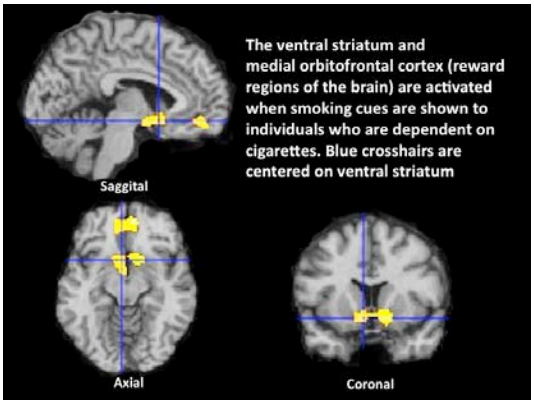
STUDY HIGHLIGHTS - REVEALING PERSONALIZED TREATMENT OPTIONS THROUGH BRAIN AND BEHAVIORAL MECHANISMS IN CIGARETTE ADDICTION

Smoking cigarettes is the number one preventable cause of death in the U.S.

Can I repeat that?



Yes. Smoking is the number one cause of preventable death and is directly related to many diseases that severely reduce the quality of life. Yet about 25% of those who try cigarettes get caught in the grips of these cancer-causing creations and continue to smoke. One particular reason individuals find it difficult to quit is that things in their environment trigger the behavior. These reminders – or cues - elicit craving and an uncontrollable desire to smoke 'just one cigarette'. But one cigarette often leads to another, and relapse ensues.

There are medications available to treat cigarette dependence. Unfortunately, no single medication works for everyone. Because there is individual variability in medication response, someone who wants to quit may spend several years looking for the right fit – and often, folks give up before that happens. Our goal is to produce the science that will allow clinicians to know in advance for whom a particular treatment will be helpful, permitting personalized treatment strategies that will reduce relapse rates and improve quality of life. We use a number of tools to explore inter-individual variability including neuroimaging the brain substrates of smoking cue exposure, assessing brain functional and structural organization in the addicted brain compared to the healthy brain, assessment of affective and attentional biases to smoking and other types of cues, and pharmacological probes (i.e., baclofen, varenicline). We also examine how genetics, hormones, sex, race and other relevant variables interact with brain and behavioral responses.

Currently, we have two ongoing smoking studies. Procedurally they are almost identical. However, the two studies address two different sets of hypotheses, which are based on the pharmacological probe and the individual vulnerabilities we think these probes may address. Both studies include baseline (pre-treatment) brain and behavioral sessions, followed by randomization to placebo or active medication and then on-treatment brain and behavioral sessions. Individuals remain in treatment following these sessions. The staff members responsible for acquiring these data sets are many and varied. If you are reading this newsletter you are most likely one of them. As the PI on these projects, I am forever in your gratitude. The major players are the two Imaging Technicians, Shannon Kelly and Jamison Langguth and the Study Coordinator, Melanie Maron. Dr. Reagan Wetherill and Dr. Anna Rose Childress serve as Co-Investigators on the studies. Shannon and Jamison are relatively new members of our group so please join me in offering them a huge WELCOME. I look forward to a great year continuing the smoking studies with you all. Dr. Teresa Franklin

INDUSTRY NEWS – A PILOT TRIAL OF A VIDEOGAME-BASED EXERCISE PROGRAM FOR METHADONE MAINTAINED PATIENTS

A pilot study was carried out to explore the use of exercise interventions for treatment of substance-use disorders at the APT Foundation in New Haven, Connecticut. Specifically, the study wanted to test the effectiveness, feasibility, and acceptability of an innovative, engaging, inexpensive, and transportable onsite exercise intervention. The exercise intervention used was the Wii Fit Plus exergames (videogames that require physical exertion) and Wii sedentary video games (games played while sitting).

Participants were assigned to either sedentary or active game play and asked to play 30 minutes each time they came in for treatment. The participants were evaluated on energy expenditure, exercise participation outside of the clinic, whether illicit substance use decreased, and whether psychological wellness increased over the 8-week pilot study.

The results of the study showed a significant reduction in levels of illicit opioid or cocaine use over time. Furthermore, there was a decrease in perceived stress and an increase in optimism. These changes, however, had no significant differences between the active game play and sedentary game play groups.

Some limitations of this study to keep in mind are that there were only 29 participants and it was limited by location. Even with the limitations, this study still provides preliminary data that indicate the Wii Fit Plus to be a novel, low-cost, transportable, feasible, and acceptable intervention for substance abuse treatment.

Check out the full article:
http://www.sciencedirect.com/science/article/pii/S0740547214000889

UPCOMING EVENTS AT THE CENTER

December 1, 2014
Jeremy Mennis
Addiction and the Environment: Why Place Matters to Substance Abuse and Treatment

December 15, 2014
Dr. Kyle Kampman, MD
An Update on Topiramate for Cocaine Dependence

December 22, 2014
Dr. Heath Schmidt, PhD
Novel molecular and neuroendocrine mechanisms underlying cocaine taking and seeking in rats

Click below for a complete list of our clinical trials:

Addiction Treatment and Medication Development Division

Brain-Behavioral Vulnerabilities Laboratory

Penn Behavioral Health
Penn Medicine

Treatment Research Center

Addiction Treatment
& Research

CONTACT US

If you have any questions regarding one of our clinical trials, please call 215-243-9989 or email addicted@med.upenn.edu