

Attentional Bias, Craving, and Smoking Related Cues: An fMRI Investigation
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The purpose of this study is to further our understanding of the mechanisms underlying self-regulation in people who smoke. In particular, we will focus on the degree to which smoking-related items, or “cues,” draw and capture attention, termed attentional bias. Attentional bias is thought to play a critical role in generating and maintaining drug craving and, importantly, is correlated with smoking relapse. This work will contribute to our understanding of 1) the cognitive and brain-based underpinnings of attentional bias for smoking-related cues, and 2) the relationship between attentional bias, craving, and subsequent smoking behavior.

The project will study attentional bias to smoking related cues and cue-induced cigarette craving in a subset of adult participants who are already enrolled in an NIH-funded randomized control trial of two distinct cognitive coping methods (cognitive therapy (CT), aimed at stimulus reinterpretation vs. mindfulness based therapy (MBT), a novel mind-body therapy that extends CT principles and aims to reallocate attentional resources). Participants will undergo 3 fMRI scans (baseline, quit day, and end of therapy) during which they will complete a smoking Stroop and cigarette cue paradigm.

We hypothesize that during acute withdrawal (quit day), a greater reduction in attentional bias to smoking related cues will be observed for participants who received MBT as compared with participants who received CT. Attentional bias will steadily decrease in both groups over time (quit day to end of therapy) and the magnitude of the between-group difference will increase over time. We also hypothesize that during acute withdrawal (quite day), a greater reduction in cue-induced craving will be observed for participants who received MBT as compared with participants who received CT. Craving will decrease in both groups over time (quite day to end of therapy) and the magnitude of the between-group difference will increase over time.