Sometimes what you don’t know you know is where the action is. With lessons about both personal humility and the future of focus groups, first of its kind research used brain data from a small group to predict behavior in the general public.

In a research report just published online in *Psychological Science*, public health officials used activity in a very specific region of the brain to predict which would be the most effective of three different anti-smoking ad campaigns. Rather than focus group self-reports, or even the predictions of experts, the useful information was found to be in brain activity not represented in consciousness. That’s right, without my knowing it, my brain can predict what you’ll do.

This is yet another reminder that as much as we may think we’re in control of our minds and selves—smoothly navigating through fast-paced always-connected lives—we are in many ways just along for the ride. The stuff that matters in our brain/minds is often well outside our awareness. And when we think we know what’s best for other people, perhaps we need to throttle back on the aggression and turn up the humility.

Here’s what the researchers did:

30 heavy smokers with an intent to quit were shown a set of “professionally developed television ads designed to help smokers quit smoking.” These ads made up three different ad campaigns. The 30 smokers watched the campaigns and completed a self-report questionnaire about the relative effectiveness of each of them.

They also had an fMRI measure activity in the

“ventral subregion of medial prefrontal cortex (MPFC) in Brodmann’s area (BA) 10. This region was selected because it was the cluster most highly associated with individual behavior change in a previous independent study.”

All good so far: A bunch of smokers watch some ads, answer some questions, and have their brain activity measured. But how then to measure effectiveness of the ads?

Each of the three campaigns were then broadcast for a month in different states. Each campaign included the National Cancer Institute’s Smoking Quitline phone number (1-800-QUIT-NOW). And to see which campaign worked best the researchers recorded increases in call volume to the Quitline and compared the three different locations. The bigger the increase, the more effective the ad campaign.

Which method of prediction best predicted which campaign would work best: focus group self-reports? brain activity? What they found was that the measured brain activity in the medial prefrontal cortex (MPFC) predicted what the general population would do significantly better than self-reports did. Additionally, when they compared the measured brain activity to predictions made by public health experts, brain activity won again.

At the risk of sounding a little too geeky for this space, that is like totally elegant and cool.

This study is additionally noteworthy because it is happening now. For real. This is not futurism, not a prediction about what tomorrow will be like (see David DiSalvo’s recent post). Measuring brain activity to predict population behavior is a viable technology today. As the last line of the research report states, “behavioral responses of entire populations whose brains are never examined may be inferred from the brain activations of a small neural focus group.” Whoa!

You may not know what you need to know to change behavior, but the brains of others just might. Having neuroscience harness the power of the unconscious to help motivate people to quit smoking and therefore live longer is both astonishing and humbling.

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