Natalia Lawrence (University of Exeter)

Natalia has a background in cognitive neuroscience (fMRI), experimental psychology, and clinical research. She studies emotional processing in a range of psychological disorders and seeks to translate basic findings into clinical applications.

Her current research examines whether computerised response inhibition (‘self-control’) training can reduce ‘addictive’ behaviour such as over-eating. Natalia and colleagues have previously shown that self-control interacts with brain ‘reward’ responses to foods to determine eating behaviour (Lawrence et al., 2012 Neuroimage, 63: 415), and that response inhibition training can reduce risky gambling behaviour (Verbruggen et al., 2012 Psychol Sci, 23: 805). Food response inhibition training simply requires individuals to make a key press in response to images of healthy foods and to inhibit this response when unhealthy foods are shown, thereby training individuals to control impulses towards unhealthy foods (see Figure).

Several laboratory studies by Natalia’s team and other groups (e.g. Houben, 2011; Veling et al., 2011) suggest that such training can reduce food consumption by up to 40%.

Natalia and colleagues have recently conducted a pilot randomised controlled trial, presented at this year’s BAP (Lawrence et al., 2014), to examine whether response inhibition training to food can affect real-world eating behaviour. A sample of 84 predominantly middle-aged and overweight adults from the local community completed four short (10 minute) sessions of online response inhibition training at home or at work. Half of the sample was trained to inhibit responses to pictures of food and half to inhibit to non-food images (control group). Results showed significant weight loss and reduced estimated daily calorie intake following food-
related vs. control training. Excellent adherence (97%) to, and positive feedback about the online training suggests that this intervention is acceptable and has the potential to improve public health by reducing overweight and obesity.

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**References**


