Medical Xpress

Online computer game can help shed weight and reduce food intake

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A simple new computerised game could help people control their snacking impulses and lose weight. Psychologists at the University of Exeter and Cardiff University have today published a study that shows that participants lost an average of 0.7kg and consumed around 220 fewer calories a day whilst undergoing the week of training.

With 64% of adults in the UK overweight or obese, the research opens up exciting possibilities that 'brain training' techniques specifically targeting problematic behaviours - such as overeating and drinking alcohol - might help people to take control.

The team of researchers, led by Dr Natalia Lawrence, have developed a simple online computer game that trains people to resist unhealthy snack foods. The game requires people to repeatedly avoid pressing on pictures of certain images (e.g. of biscuits), whilst responding to other images (e.g. fruit, clothes), and therefore trains people to associate calorie-dense foods with 'stopping'. The team previously showed that this training reduces how much food people eat in laboratory tests.

Now their new study, sponsored by the Wellcome Trust and published in the journal *Appetite*, has found that 41 adults who completed four 10-minute sessions of the training online lost a small but significant amount of weight and ate fewer calories (estimated from food diaries).

The training also reduced how much the calorie-dense 'stop' foods were liked. The reduction in weight and unhealthy snacking was maintained

six months after the study according to participants' self-report.

These effects were observed relative to a control group of 42 adults who completed the same "stop versus go" training, but involving pictures of non-food objects (e.g. pens).

Dr Natalia Lawrence of the University of Exeter, lead researcher in both the original research and the new studies, said: "These findings are among the first to suggest that a brief, simple computerised tool can change people's everyday eating behaviour. It is exciting to see the effects of our lab studies translate to the real world. This research is still in its infancy and the effects are modest. Larger, registered trials with longer-term measures need to be conducted. However, our findings suggest that this cognitive training approach is worth pursuing: It is free, easy to do and 88% of our participants said they would be happy to keep doing it and would recommend it to a friend. This opens up exciting possibilities for new behaviour change interventions based on underlying psychological processes."

Eighty-three adults from the local community aged 23-65 with BMIs ranging from 21 to 46 (healthy to obese) were involved in the study. Participants had to report regular intake (at least three times per week) of energy-dense snack foods (crisps, chocolate, biscuits) and some problems controlling their food intake on a screening questionnaire. Most participants were recruited from the NIHR Exeter Clinical Research Facility's Exeter 10,000 participant panel.

Participants were weighed by researchers and given food rating tasks and food diaries to complete one week before, and one week after the training, which they completed online at home or work. They were randomly allocated to receive the active (food-related) or control training intervention. Results showed that participants in the active group lost weight (~ 0.7 kg), consumed less (~ 220 kcal a day) and reported

lower 'liking' of the snack foods they were trained to stop to.

Provided by University of Exeter