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**Basham and Luik**

## Are you dying for a fix of burger and chips?

There's one problem with the experiments 'confirming' that junk food is addictive: humans aren't the same as rats.

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Ever since Caesar Barger sued McDonald's, Wendy's, KFC, and Burger King in 2002 on the grounds they marketed addictive food, anti-obesity crusaders have been trying to make the case that fast food, or so-called 'junk food', is addictive. And it's now official. One national newspaper headline recently declared: 'Junk food as addictive as heroin and smoking.'

The new 'evidence' comes from researchers Paul Johnson and Paul Kenny at the Scripps Research Institute in Florida. Johnson and Kenny fed one group of rats normal rat food, and two other groups of rats were given either restricted access or open access to energy-dense food preferred by humans.



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Rats that were given free rein of the human energy-dense food consumed twice as many calories as the rats who ate only rat food. When the rats who were fed junk food were placed on a nutritious diet they 'refused to eat', according to Kenny. The refusal was explained by the fact that the rat's brain circuitry – specifically the dopamine D2 receptor – had been altered by eating the junk food, much as using heroin changes neural circuitry.

As Kenny told the press, 'These findings confirm... overconsumption of highly pleasurable food triggers addiction-like neuroadaptive responses in brain reward circuitries, driving the development of compulsive eating... Common mechanisms may therefore underlie obesity and drug addiction.'

The claim that junk food, which in practise constitutes whatever particular food one doesn't like, is addictive first made its public debut in a February 2003 *New Scientist* article, which reported on various pieces of research that claimed to show that 'early exposure to fatty food could reconfigure children's bodies so that they always choose fatty foods... This suggests that children fed kids' meals at fast-food restaurants are more likely to grow up to be burger-scoffing adults.'

The claim has been taken up in a variety of other places as well. Dr Neil Barnard, president of the activist group Physicians' Committee for Responsible Medicine, claims: 'Food really is physically addictive: chocolate, meat and sugar act like drugs... It's not gluttony, weak will... that keeps us tied to certain foods. There is a biochemical reason many of us feel we can't live without our daily meat, cheese, or sugar fix.' Anti-tobacco lawyers John Banzhaf and Richard Daynard have also claimed that junk food is addictive.



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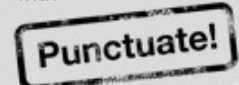
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Proving that junk food is addictive is a crucial final step in the War on Obesity. As long as the debate over obesity is framed in terms of choice, autonomy, and responsibility, the advocates of aggressive and overwhelming state action will face considerable problems getting many of their policy proposals accepted. So addiction provides the final piece of evidence that potentially can shift this debate, since it disposes once and for all of those annoying counterarguments about eating being a matter of choice and personal responsibility being a viable solution to the problem of overeating.

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## Five days of *spiked*




Addiction, if it means anything in the obesity debate, means that one is not responsible for one's eating decisions. Eating is not a personal choice, but a manipulated outcome in which Big Food, just like Big Tobacco, hooks us to its products. And, the logic goes, as a manipulated outcome, it deserves to be regulated, if not completely outlawed, by the state.

But, if you smell a rat regarding the American 'evidence', you are on to something. There are a number of problems with Johnson and Kenny's rat study.

- First, there is the major problem about rat research in general, namely, it is *rat* research. It proceeds on the unargued-for assumption that conclusions about animal dependency are transferable to issues of human dependency and that any behavioural differences are trivial. But behavioural differences are not trivial. The dominant model of human beings proceeds on the assumption that they, in fact, can resist and, indeed, can act in defiance of compulsive drives. Altered brain circuitry is not destiny, as the empirical evidence about other addictions amply shows.
- The rat study makes the unfounded assumption that overweight and obesity are caused by overeating. The study fails to provide any evidence in support of this assumption and there is considerable evidence against it. One of the major problems about the war on fat is that there isn't much clear evidence about what exactly causes overweight and obesity. For example, studies have shown that obese people do *not* routinely eat more than the non-obese - something that calls into question the entire relevance of the addicted rat study to the obesity debate.
- The entire idea of addiction cannot be substantiated as a scientific theory since there is no way in which it can be independently established beyond the subjective claims of the addicted individual. Whatever a supposed food addict might claim, there is no scientific way in which his alleged inability to stop eating can be distinguished from the fact that he either does not wish to stop or has not tried hard enough to stop. Indeed, being unwilling to stop or failing in self-discipline to stop is as probable an explanation as being 'addicted'.

Jennie Bristow



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- Unlike smoking, where the addicting agent is nicotine, proponents of food addiction fail to specify which particular chemical or combination of chemicals or nutrients is actually addictive. Instead, they make the claim that what is addictive is an entire food category, that is, junk food, or specific nutrients like carbohydrates. The problem is that junk food contains an enormous number of chemicals, as well as proteins, fats and carbohydrates, making it impossible to specify either which individual ingredient or combination of ingredients is supposedly addictive. And this is true of other foods as well.
- There are additional problems with carbohydrates as the supposed source of food addiction. Human, as opposed to rat, studies have found that obese women prefer high carbohydrate and high fat foods while obese men prefer high protein foods. If the cravings – the driver of addiction – of the obese are for foods with carbohydrates, fat and protein, then it is difficult to believe that carbohydrates alone are the addictive substance. Moreover, addiction, rat or human, supposedly involves compulsive cravings, yet carbohydrate consumption does not involve craving. Several studies have shown that supposed carbohydrate addicts do not improve after a carbohydrate-laden meal, which they should do if they are in fact addicted.
- Pharmacological treatments for supposed food addiction do not work, whereas behavioural therapies do. If food addiction were in fact produced through some sort of opioid-like process in the brain, then we would expect that opioid antagonists, which are used to treat drug dependency, would work. But there is no evidence that opioid antagonists prevent food cravings or the desire to overeat.
- If addiction is pharmacologically produced, as the authors of the rat study claim, then animals who have been genetically modified so that their neuro-reward networks cannot process an addictive drug should not display addictive behaviours. But a number of studies have shown that this is not the case, as dopamine deficient animals still display so-called addictive behaviours.
- Finally, Johnson and Kenny's claims about food addiction fall apart with their comparison of addiction to junk food to addiction to such drugs as heroin. That's because human beings, unlike rats, are regularly able to escape the so-called addictions to psychoactive substances. The scientific literature is full of studies in which drug users were able, despite their 'addiction', to stop using their drug of choice. For instance, a 1974 study of Vietnam veterans by Leen Robbins found that only 50 per cent of those who used drugs in Vietnam continued using them after returning to the US, and only 12.5 per cent of these became regular users. And in their study on heroin addiction, Gerry Stimson and Edna

Oppenheimer found that users of heroin and other substances move through a cycle of addiction and recovery that is inconsistent with the model of pharmacological compulsion and brain circuitry that dictates behaviour.

In humans, as opposed to rats, even the potent drug addictions to which food addiction is supposedly similar, according to Johnson and Kenny, do not compel behaviour at all. Humans routinely stop being addicted to any number of things. And that makes all the difference.

**Patrick Basham and John Luik** are authors, with Gio Gori, of *Diet Nation: Exposing the Obesity Crusade*, a Social Affairs Unit book. (Buy this book from [Amazon\(UK\)](#).) Patrick Basham directs the [Democracy Institute](#) and is a Cato Institute adjunct scholar. John Luik is a Democracy Institute senior fellow.

### Previously on *spiked*

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