

TECHNOLOGY

Beware the irresistible internet

From virtual gaming to social media, from iPhones to "CrackBerrys", we are surrounded by online technology - and it's proving addictive

Paul Marks

WHEN does our predilection for internet technology cross over into harmful, addictive behaviour? It's a question that is taxing lawmakers and health professionals.

For some, the idea that technology can be addictive is simply wrong-headed (see "User or abuser?", below). That notion may soon be tested in the American courts. Last month, 51-year-old Craig Smallwood, an online gamer, was given leave by a court in Hawaii to proceed with a lawsuit against NC Interactive, complaining that he received

insufficient warnings regarding the alleged "addictiveness" of its online game *Lineage II*, which he claims to have spent 20,000 hours playing since 2004.

The argument that internet addiction should be treated seriously was given more weight recently when a group of psychiatrists used MRI scanners to show changes in the brain activity of a group of South Korean gamers receiving treatment for addiction to online game *StarCraft*. Perry Renshaw of the Brain Institute at the University of Utah in Salt Lake City and colleagues found that

when volunteers were shown parts of the game, brain activity in three distinct areas significantly increased for those reporting *StarCraft* addiction compared with a control group of non-gamers. After a six-week course of the antidepressant bupropion, the addicts showed decreased brain activity when exposed to game cues, which tallied with a reduction in their craving to play (*Experimental and Clinical Psychopharmacology*, DOI: 10.1037/a0020023).

It's not just online games that are proving hard to resist. Richard Graham, a psychiatrist specialising in adolescent patients, is heading up the UK's first dedicated technology-dependence clinic. He sees some clear risk groups that essentially seem to be split along gender lines: "There appears to be a group of young men in particular who are getting completely stuck within multiplayer online gaming environments such as *World of Warcraft* (*WoW*). For women and adolescent girls, the social media and instant messaging platforms seem just as compulsive."

In a survey published in August, the UK communications regulator, Ofcom, highlighted our obsession with screen-based media. It reported that, through multitasking, the average Briton is managing to cram 8 hours, 48 minutes of daily screen-based media consumption into just 7 hours. And it's much higher for people aged 16 to 24 years: they manage to shoehorn 9.5 hours of media into just 6.5 hours a day.

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technology revolution and we don't really know what it is doing to us," Graham says. "I'm not saying technology is all bad - it has some very positive aspects - but there is an issue about its constant availability: technology is much more accessible than drugs."

Graham's clinic is one of a new breed designed to help those

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whose technology use is crippling their relationships, education or health. The plan is to enable them to strike a better balance. Set up earlier this year at the Capio Nightingale Hospital in London, the clinic's main target is adolescents, though Graham's colleague, psychologist Nerina Ramlakhan, focuses on adults: mainly weaning burned-out



Just 10 more minutes?

LASERNOTICE

BlackBerry-addicted white-collar workers off of their habit.

Graham says one of the attractions of the virtual gaming world for adolescents is that it offers an easily acquired route to prestige among their peers. "Three solid days of playing *WoW* can elevate them far quicker than success in a two-year GCSE course. Some turn to this world when they have failed in an exam, a sport or musical test," he says.

Some, however, can barely stop playing, and get "depressed, aggressive, anxious and agitated" if they do. "But their mood improves a lot after only two or three days away from it," he says.

China and South Korea have developed a radical approach to treating addicted gamers. Their "internet boot camps" can involve months of military-style physical training, says Graham. "They sound rather harsh and punitive. That said, with some people the

compulsion can be so great that a firm stance is necessary."

Ramlakhan observed the growing grip of the first home computers in the 1980s, and then cellphones in the 1990s, and sees their effect on the attention spans of her patients. She says sleep is the major victim of tech addiction in adults: "These people are often running on empty, on adrenaline and caffeine. They don't take breaks and they skip meals. Their energy levels drop, they lose sleep and they gain weight."

Such descriptions are eerily reminiscent of the writings of artificial intelligence pioneer Joseph Weizenbaum. As far back as 1976 he was shocked at how programmers were living on "coffee and Coke and sleeping on cots near the computers". Now, the potent combination of omnipresent technologies and our addictive nature means more casualties look inevitable. ■

USER OR ABUSER?

For almost as long as there's been information technology, there have been arguments over whether it is possible to become addicted to it.

One definition of behavioural addiction is a recurring compulsion to act in specific ways which may have detrimental impacts on the person's well-being - there are well catalogued examples of people's internet activity fitting that pattern.

The idea of behavioural addiction is not universally accepted, however. Psychiatry's bible - the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) - prefers the classification "impulse control disorder", differentiating the conditions from physical addictions, such as cocaine or alcohol addiction.

The question of whether internet addiction should be included as a

diagnosed condition in the next edition, DSM-V, is a hot debate right now.

Some people, such as psychiatrist Jerald Block, based in Portland, Oregon, argue that internet addicts show behaviour consistent with other addictive disorders, such as excessive use, withdrawal and negative social impacts.

Others, including Ronald Pies, at Tufts University School of Medicine in Boston, Massachusetts, argue there have been insufficient controlled studies of internet addiction to show that withdrawal symptoms are genuinely physiological. They suspect that the negative social effects attributed to excessive internet use may have other underlying causes, such as depression or obsessive compulsive disorder. Gareth Morgan