

**AUGUST 2013**

**SMART DRUGS**

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DEBATING MATTERS  
**TOPIC  
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## KEY TERMS

Cognitive ability

Cosmetic neurology

Human enhancement

Long-term memory

Working memory

# INTRODUCTION

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# NOTES

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Across the UK students and high-achieving professionals are popping pills. These drugs aren't being taken recreationally by party-goers but by students cramming for essays and exams, anxious businessmen and those struggling to overcome jetlag. These 'chemical cognitive enhancers' known to many as 'smart drugs' are still most prevalent in the US but the numbers of people using them in the UK is on the rise according to recent reports. As many as one in ten UK students might now be taking them to get ahead [Ref: [Telegraph](#)] prompting heated debate amongst the British medical profession. While leading bioethicist, John Harris, wrote in the British Medical Journal that 'smart drugs' should be embraced [Ref: [BMJ](#)], others in his field have voiced a range of scientific and moral objections. The turn towards 'cosmetic neurology', that is the use of drug treatments by people without disease to enhance normal cognitive abilities, marks an important shift in medicine and raises difficult questions about their use. Should medicine be used to improve the quality of life of those who are healthy as well as those who are sick? Are those who use smart drugs justified in taking credit for a pharmaceutically enhanced performance? Are 'off-label' medications an exciting step towards 'better brains' or are we in danger of undermining something of ourselves in the quest for perfection?



### Which drugs and for what?

In the development of treatments for neurological disorders like Alzheimer's and Parkinson's, researchers were surprised to discover the 'off-label' effects of drugs they had developed when taken by healthy individuals [Ref: [Guardian](#)]. These drugs are available on prescription for those suffering from such medical conditions, but are also being purchased over the internet and elsewhere by healthy individuals (the legality of such purchases varies from country to country and from drug to drug). They work on the neural processes underlying attention, perception, learning, memory, language, planning and decision-making, usually by altering the balance of the chemical neurotransmitters involved in these processes. Some examples include Modafinil (Provigil), originally intended for sufferers of the sleep disorder narcolepsy, but now widely used to increase attention and replace sleep; Donezipil (Aricept) designed for Alzheimer's patients but used to boost memory; and Methylphenidate (Ritalin), for the treatment of attention deficit hyperactivity disorder (ADHD), now used to improve attention and lessen distractibility. Proponents argue that their use is just a step-on from the more conventional use of nicotine, caffeine and alcohol people have used for centuries to boost mood, memory and performance. Sceptical bioethicists have, on the other hand, raised doubts over the ethics of medical practitioners offering potentially risky pharmaceutical solutions in cases that amount to the obsessions of the "worried well" [Ref: [Dana Foundation](#)].

### Are smart drugs dangerous?

Because smart drugs have already been judged safe enough for use in the context of specific treatments, advocates argue we

can reasonably assume that they are safe enough to be taken by a healthy adult population for the purposes of enhancement. Dissidents meanwhile warn that the infancy of smart drugs means we cannot yet assume they are safe [Ref: [Guardian](#)]. Scientists in the field of human memory worry that smart drugs might irreversibly transform the make-up of – especially young people's – brain chemistry and human character [Ref: [University of Pennsylvania](#)]. Other writers have suggested there might be negative societal effects were smart drugs widespread. Tomorrow", wrote William Safire pessimistically, "we can expect a kind of Botox for the brain to smooth out wrinkled temperaments, to turn shy people into extroverts, or to bestow a sense of humour on a born grouch" [Ref: [Reason](#)]. As the pace of scientific change continues to outstrip public debate, some researchers have argued that better regulation might allow pharmaceutical companies to develop and market cognitive enhancers for healthy adults [Ref: [Nature](#)].

### Drugs, coercion and inequity

Some believe improved regulation might open flood gates to a new brand of highly developed 'smart drugs'. These critics worry not that the cosmetic neurology might help individual fighter pilots or surgeons strive for better performance, but that the widespread use of cognitive enhancers might provoke a pharmaceutical 'arms race' widening inequalities in competitive environments like the worlds of business or education [Ref: [NY Mag](#)] – what starts as a matter of individual choice can quickly become one of collective coercion, warns commentator, Roger Cohen [Ref: [New York Times](#)]. In contrast, advocates of smart drugs argue these fears over-estimate the power of



pharmaceuticals – just because cognitive enhancement might help you complete a task productively does not mean that task is the measure of success in broader life [Ref: [Daily Beast](#)]. Just as the effect of cognitive enhancers can be varied, smart drugs might just as well be used to re-organise one's music collection as help humanity cure cancer.

### **Are we cheating ourselves if we use smart drugs?**

The technology's neutrality has led Margaret Talbot to argue that smart drugs “facilitate a pinched, unromantic, grudgingly efficient form of productivity” far removed from the kind of creativity necessary for human advancement [Ref: [New Yorker](#)]. Academics concerned for the laziness of their students have similarly seen the use of smart drugs as symptomatic of a broader ‘managerial’ and ‘reductive’ approach to scholarship that promotes rote learning over creativity and underplays the importance of a critical engagement with difficult ideas [Ref: [THES](#)]. In this light ‘smart drugs’ at present appear woefully inadequate at provoking the kind of critical engagement with ideas that produces innovation. For the philosopher, Michael Sandel and others, the scientific pursuit of perfection undermines our appreciation for the virtues and ‘giftedness’ of human character [Ref: [Atlantic](#)]. The defenders of enhancement argue support for smart drugs is a moral imperative – it is exactly the drive to self-improve transcending natural limits that defines the human character?



## ESSENTIAL READING

Shall we enhance? A debate

Arthur L. Caplan and Paul R. McHugh, M.D. *The Dana Foundation*  
1 October 2004

### FOR

Are Smart Drugs the Answer to Bad Moods—and a Bad Economy?

Sherry Baker *Discover Magazine* April 2009

Head to head: Is it acceptable for people to take methylphenidate to enhance performance? Yes

John Harris *BMJ* 2009

The cleverness pill

Adam Rutherford *Guardian* 12 December 2008

Towards responsible use of cognitive enhancing drugs by the healthy

Henry Greely et al *Nature* December 2008

### AGAINST

Smart Drugs: When Performance Rules

Anthony Bradley *Acton Institute* 16 July 2013

A Pandora's box full of smart drugs

Ann Robinson *Guardian* 23 February 2010

The smart drugs won't work

Paul Cooper *Times Higher Education* 25 June 2009

Neuroethics Briefing: Cognitive Enhancement

Martha Farah *University of Pennsylvania*

### IN DEPTH

The age of enhancement

David Edmonds *Prospect* 3 September 2009

Brain Gain: The underground world of neuroenhancing drugs

Margaret Talbot *New Yorker* 27 April 2009

The Battle for Your Brain

Ronald Bailey *Reason* February 2003

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## BACKGROUNDERS

In Their Own Words: 'Study Drugs'

*New York Times* 13 June 2013

Is it okay to use smart drugs?

Mo Castandi *Wellcome Trust* 20 May 2013

The Real Limitless Drug Isn't Just For Lifehackers Anymore

Robert Kolker *NYMag* 31 March 2013

The Competition Drug

Roger Cohen *New York Times* 4 March 2013

Smart Drugs: magic bullet or cheating ourselves?

*Battle of Ideas* October 2011

Can you build a better brain?

Sharon Begley *Daily Beast* 3 January 2011

Smart drugs, smarter students?

Mun-Keat Looi *Wellcome Trust Blog* 12 May 2010

Mind enhancing drugs: are they a no-brainer?

Jeremy Laurance *Independent* 19 June 2009

Artificial intelligence

Madeline Brettingham *TES* 1 February 2008

The Neuroethics of Enhancement: How Smart Are Smart Drugs?

The Dana Centre 14 May 2007

Better Humans?

*Demos* 2006

The case against perfection

Michael Sandel *Atlantic* April 2004

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## ORGANISATIONS

Academy of Medical Sciences

Neuroethics Society

Oxford Centre for Neuroethics



## IN THE NEWS

Use of ADHD drugs 'increased by 50% in 6 years'

*BBC News* 13 August 2013

Drug tests before exams could curb students Ritalin use  
academics says

*Telegraph* 30 June 2013

Modafinil for sale on Campus

*The Tab (Leeds)* 15 May 2013

Do cognitive-enhancing drugs work?

*BBC News* 9 November 2011

Clever smart drug thriller excites

*Sydney Morning Herald* 21 March 2011

Adderall doesn't Make You Smarter, Faster, or Better

*Atlantic Wire* 21 December 2010

Students and academics increasingly using 'smart drugs' to boost  
performance

*Telegraph* 6 July 2010

NHS spending on 'chemical cosh' child-calming drugs soars by  
60% to £31m

*Daily Mail* 8 May 2010

Illegal 'smart drugs' bought online by teenagers before exams  
could have catastrophic effect

*Daily Mail* 10 March 2010

Bring smart drugs out of the closet, experts urge Government

*The Times* 27 February 2010

'Test students for smart drugs' before university exams, says  
expert

*Metro* 21 February 2010

"Smart Pills" herald new direction for drugs companies

*Star Tribune* 18 January 2010

Narcolepsy Pill Used as Smart Drug May Be Addictive

*Bloomberg* 17 March 2009

More students turning illegally to 'smart drugs'

*NPR* 5 February 2009

Let students take drugs to boost brainpower, says leading  
academic

*The Times* 1 January 2009

Scientists find key brain circuits for attention

*Reuters India* 16 July 2008

Smart drugs

*Channel 4 News* 22 May 2008

Professionals use drugs to sharpen the mind

*Washington Post* 9 April 2008

Parents accused of exam drug use

*BBC News* 29 May 2007

No 10 scientist urges brain pills for all

*The Times* 4 June 2006

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