

## **BBC iWonder – Why can't I concentrate?**

### **Step 4 video – What's happening to our brains?**

I've got a quick test for you.

Take a look up there... is this the only browser tab you have open?  
Now I'm willing to bet it isn't and you've got a few on the go at once. Yeah?

It's the gift of modern technology.

Take your smartphone; it has more processing power than in the Apollo computers that landed a man on the moon!

And I'm sure if you wanted to you could be using your phone to text, to listen to a podcast and to check emails and also while keeping an eye on the tele and a doing a whole load of other things at the same time, right?

Well, perhaps not, as neuroscientists at MIT believe that this so-called 'multitasking' is a myth.

When we think we're multitasking, say, in the office, we're actually just switching from one task to another very, very rapidly. And that comes with a neurobiological cost.

As you're quickly switching from one activity to another you're using oxygenated glucose in the brain. And as that glucose source is depleted you're left feeling drowsy and disorientated. Plus the stress hormone cortisol is released as a result. Not really the best condition to be in for making good decisions.

So surely the advice would just be to multitask less?  
Well, the problem is... we're hooked.

Our prefrontal cortex has a 'novelty bias' - our brains are always on the hunt for 'the new.'

This means our attention can always be hijacked by something else. You just can't resist that buzz of a new text message or a ping of an email or a Facebook update.

Plus, this 'constant seeking out of novelty' activates our dopamine system deep in the brain stem, sending out the neurotransmitter dopamine – often called the 'reward chemical' - to various parts of the brain.

That means our brains are effectively getting rewarded every time we lose concentration on a task.

We get caught in a 'dopamine addiction feedback loop'. When we respond to that new tweet or send out that email, we feel a sense of accomplishment as our brain receives yet another portion of reward hormones... even though all we've really achieved is losing focus on what we were supposed to be doing.

And like anything that affects the dopamine system, a craving is established that keeps you coming back for more and more.

It's time to admit it; we are well on our way to getting addicted to our tech.

Ooo excuse me, just buzzed, got a tweet...