

# WHAT'S GOING ON IN YOUR TEENAGER'S BRAIN?



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By Rachel Carlyle

**A FRIEND'S son came home from a science lesson one day absolutely jubilant (which was pretty unusual).**

“The teacher said nothing’s my fault”, he told his mother. “It’s all because of my teenage brain”.

His mother did wonder if she could really blame his pre-frontal cortex for leaving damp towels on the floor, but actually it’s not as far-fetched as it sounds.

Until fairly recently it was thought that your brain was fully formed in early childhood, because it reaches 95 per cent of its adult size by the age of six.

But the invention of MRI scanners have allowed scientists to see inside our heads – and discover that the teenage brain is a peculiarly messy work in progress.

The biggest changes happen in the front of the brain, the “chief executive” bit which is responsible for decision-making, planning, controlling emotions and linking cause and effect (hence those damp towels).

Just before puberty, it produces lots of new connections – then begins to prune them back during the teenage years to make the brain more efficient.

The neurons also begin growing a layer of insulation, which speeds up transmission of messages one hundred-fold.

The result, say scientists, is that by 17 or 18, the teenager will have a better-functioning brain capable of more complex thought and reasoning.

But while the change is going on, things go a bit haywire: they have trouble linking cause and effect, they can’t plan ahead, they’re overly emotional and self-conscious and they simply don’t do empathy.

Interestingly, researchers in America have also discovered they can’t read other people’s emotions very well.

In one experiment, a group of teens and adults looked at pictures of facial expressions: the adults correctly identified fear, but the teenagers said the faces were angry.

Scans showed the teenagers were using the “gut reaction” part of the brain to work it out, whereas adults used the frontal area.

That was probably because the front part was still under construction, according to neuroscientist Dr Jay Giedd from the US National Institute of Mental Health: “It’s not that teens are stupid or incapable of things. It’s sort of unfair to expect them to have adult levels of organizational skills or decision-making before their brain is finished being built”.

And if you toss in raging hormones and the fact that their body clock is re-setting itself – resulting in those famous lie-ins – it’s not exactly a recipe for familial harmony.

All of which requires parents to be a bit more understanding and to tailor their approach, which is not the same as letting them get away with murder, says counselor Janey Downshire, mother of four children aged between 12 and 10.

It was her desire to understand teenagers better which led her, together with a colleague, Naella Grew, to set up parenting courses called **Teenagers Translated**.

“The brain of a teenager is undergoing a massive restructuring – a bit like a house being rewired and re-plumbed. While that’s going on the child is operating much more out of their emotional centre. That’s why it’s crucial to be calmer and less reactive”.

Practically speaking, that means not rising to the bait every time they say, “It’s so unfair” and to avoid getting drawn into the games of argumentative ping-pong.

Yes, there will still be shouting – but it’s essential to follow that up with a quiet conversation the next day.

If they’ve stayed out until 2am when you expressly said midnight, resulting in a furious row, you need to explain why you were so cross.

“Teenagers can’t do empathy until at least 17, so they can’t see that you were anxious because you were frightened about what could be happening to them. They just think you are cross with them breaking rules”, says Janey.

Teenagers are very insecure and afraid for all their bluster, so don’t be tempted to be sarcastic or belittling.

Just like smaller children, they need boundaries in order to feel secure, but many parents go wrong by just imposing arbitrary rules.

Much better to negotiate so they buy into the boundary: if you want them home by 12 and they complain, ask them what time they think is suitable.

If it’s 2am, agree a compromise of 1am. You’ve only lost one hour and they’re more likely to stick to it, says Janey.

One of the biggest mistakes parents of teenagers make is to be the same parent they were when the child was seven or eight.

“Your child of 14 requires different parenting skills from a child of seven and often we want to hold the reins too tight” says Janey. “It’s imperative to shift emphasis to a listening role rather than a telling one. But it’s a fascinating and lovely age: it’s about appreciating them for what they are becoming, not lamenting the fact that they are no longer your lovely little child.”

**For more information see [www.teenagerstranslated.co.uk](http://www.teenagerstranslated.co.uk)**