



BBQs, picnics and parties

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Body & Soul**In a sorry state of mind**

Were the motorists who drove past Cait Atkins lacking in empathy? Science has the answer, says Kate Wighton

If there was ever a story to make you wonder what the world's coming to it's that of Cait Atkins. The eight-year-old was crossing a road on Wednesday near her home in Aylesbury, Buckinghamshire, when she was hit by a car, breaking a leg in two places. As she lay in the road screaming for help, at least six drivers drove around her and continued their journey before one finally pulled over to help.

Have we all lost our sense of empathy, the media coverage has asked? How come no one put themselves in Cait's position and realised how scared and hurt she was? Shouldn't it be natural to us to want to help? According to James Harris, a professor of psychiatry at Johns Hopkins University in the United States, it is natural and we want to help because empathy is something that's hard-wired into our brains. New research has even revealed that empathy has a physical location. The problem is whether we act on it or not. Whereas empathy is something that is instilled in us from birth, whether we act on it or not depends on our character and upbringing. And if we take action and help someone, we show compassion. "Empathy is an in-built response, so everybody has it to some extent. I doubt that people driving by that little girl didn't feel some, but the problem is they didn't act on it. Compassion is when we act on empathy, and those people weren't compassionate enough to stop," he says.

Our brains are influenced by our environment and Professor Harris believes that our individualistic society may be discouraging the development of both empathy and compassion. "You have to practise them, and if you're not in touch and interacting with people regularly, this isn't going to happen."

Nevertheless, scientists agree that the brain has evolved to empathise; it benefits the community and the individual if we do. And, realising its importance to society, empathy has been the subject of intensive research in the past decade. Tania Singer, a neuroscientist at University College London, was the first person to visualise empathy, using brain-scanning techniques, in 2004. She obtained her results by scanning women's brains while their husbands were given small electric shocks.

"People asked me why I was looking at the wives' brains because it was the husbands who were in pain," says Dr Singer. But she

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discovered that the female brains reacted as though they were feeling the pain, too. Using fMRI scanning, which tracks the blood flow in the brain, she watched as the women's "pain matrix" lit up on the screen as the husbands yelped. This matrix was empathy; the ability to put yourself in someone else's shoes and to feel their suffering or emotions. It is the evolutionary glue that has held human beings together since we were chimps sauntering across the savannah. "As a human being you're going to be a bit screwed up if you don't have a system that instantly allows you to put yourself in someone else's shoes. We are social animals and this system is geared to aid social interaction and bonding. It allows us to understand each other and helps us to learn the consequences of our actions," says Mirella Dapretto, an assistant professor of psychiatry and biobehavioural sciences at the University of California, who is also researching empathy.

Some scientists believe that empathy traces back to the point when we evolved from lizards to mammals and developed better hearing to notice our offspring's cries. But it's only recently that scientists have started to explore this important ability. "Until two years ago emotions such as empathy were not thought to be graspable by neuroscience," says Dr Singer. But being able to see our brains more clearly using new technology has prompted a new surge in interest.

"Empathy research is changing our view of how connected we are with others. We are seeing that just passing a laughing person in the street can trigger a reaction in yourself, meaning that we're all resonating much more emotion than we ever consciously realise," Dr Singer says. Her studies seem to confirm that women are better at sharing emotion than men. Many scientists believe that empathy has its roots in maternal instinct, and the need for mothers to understand exactly what their child feels and needs.

Does this conversion from empathy as a fluffy feeling to numbers on a scientist's computer benefit us? Well, yes. The recent explosion of research may improve our understanding of autism, as a lack of empathy is at the heart of this disorder. Professor Simon Baron-Cohen, a leading autism expert at Cambridge University, says that unless an autistic person is told that another person is feeling sad, they will not be able to pick it up. "They also find it hard to imagine someone else's thoughts, and are unable to deceive people. For example, if someone had a bad haircut, instead of lying to protect their feelings, an autistic person might say it looks awful."

And the location of the empathy impulse in the human brain may pave the way for new treatments for those with autism. A recent study in the journal *Nature Neuroscience*, by Professor Dapretto, showed that part of the brain just below the temple, containing brain cells called the mirror neurons, is vital for understanding and mimicking other people's actions. Vivaly, this part of the brain does not switch on in autistic children .

"These scans could be used to discover whether autistic children can be educated to read emotions. We can look at the parts of children's brains which aren't working properly, try to educate them about emotion and then rescan their brains to see if those parts of the brain have been stimulated and if the treatment has been a success," says Professor Baron-Cohen.

On a simpler level, Dr Singer believes that learning more about the

science of empathy could improve life: “Empathy is a nice thing to have and if we could increase it, the world would be better off.” And perhaps Cait Atkins wouldn’t have been left lying in the road.

How to show that we care

Professor James Harris, the director of developmental neuropsychiatry at the Johns Hopkins University School of Medicine, in the United States, gives his top tips on how to increase empathy.

IN CHILDREN

- Try to understand your child’s perspective by encouraging them to talk about how they feel. They need to have a language of emotion and it is only by understanding their own feelings that they will appreciate others.
- Don’t just criticise children when they are horrible to others; remember to praise them when they show an act of kindness to another person.
- Encourage your child to make friends; friendships help people to learn how their actions affect others’ feelings.

IN ADULTS

- Learn to appreciate teenagers. They are the masters of empathy, especially when it comes to campaigns such as animal welfare.
- Remember to do the “polite” thing and to be considerate to others, which we were taught as children.
- Try to respond to e-mails rather than ignoring them, and send cards to say thank you.
- Try to focus on the kind acts of people rather than the nasty ones.

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