

How we understand people and why it's important

June 5 2014, by Skye Mcdonald



By mimicking each other, humans try to physically understand each others' emotions. Credit: Flickr: modenadude, CC BY-NC-ND

Social cognition is our <u>ability to understand other people</u>, and it enables us to predict their behaviour and share experiences.

It's also critical to understanding the many nuances underpinning everyday speech, because people frequently mean something different to



what they actually say.

"It's hot in here", for example, may be a statement of fact or a request to open a window. To understand the speaker, we need to guess the intention behind her remark.

Social cognition may represent a specialised set of abilities in the brain that are separate from those needed for non-social tasks, such as recognising a car is out of fuel. If so, it follows that <u>social cognition</u> may be vulnerable to brain disorders even when non-social abilities remain intact.

Evolutionary imperatives

Research is beginning to show this to be the case.

Many <u>people with brain damage</u>, often to the frontal lobes of the brain, develop disproportionately poor social skills and interpersonal behaviour despite relatively good intellect.

Similarly, people with <u>autism spectrum disorders</u> seem to have <u>inordinate difficulty</u> with social information.

From an evolutionary perspective, it makes sense that social cognition may have developed separately to non-social skills.

Humans are <u>social animals</u> relying on cooperation and competition within groups to survive. So the ability to recognise <u>social cues</u> and understand the meaning of <u>social behaviour</u> may be an evolutionary imperative, resulting in its development independently of non-social information processing skills.



How it works

Basically, social cognition involves you being able to identify the mental states of others – putting yourself in someone else's shoes. This helps us understand their beliefs, feelings, experiences and intentions. We can empathise and think about things from another point of view.

It also allows us to move flexibly between our own perspective and another. Interestingly, social cognition relies on information that cannot be directly observed but must be inferred from incoming information and our knowledge of the social world.

And increasingly, evidence suggests social cognition involves simulation – mimicking others' experiences as a way to understand them. A good example here is how we experience other people's emotions.

When watching someone's face we tend to mimic her facial expression, smiling when she does, frowning in agreement. Such mimicry <u>may not</u> <u>be obvious</u> to the casual observer, but minute muscle activation can be detected very shortly after being exposed to an emotional expression.

Even our eyes dilate in tune to the ones we're looking at.

More mimicry

Within the brain itself, "mirror" neuron systems in the premotor cortex of the frontal lobe are activated when we observe the actions of others. It seems that we don't just mirror thoughts, we also mirror actions!

When healthy adults are put in fMRI scanners, and asked to think about the mental state of someone similar to themselves, the <u>same region of</u> the <u>prefrontal cortex</u> is activated as when they think about themselves.



This too suggests that we understand others by reference to ourselves.

Facial mimicry can be <u>impaired following brain injury</u> although the reasons are still highly exploratory. If simulation does explain social cognition, there needs to be some kind of control of the process so we're able to differentiate between our own experiences and that of others, and move between these flexibly.

Understanding the brain

In <u>some recent work</u> in my laboratory, we've found poor flexibility and inhibition can interfere with social cognition.

We asked a group of adults who'd suffered <u>severe brain injury</u> to do a simple communication task: describe their "ideal" holiday resort. They were then asked to put themselves in the shoes of a different kind of holiday-maker, such as a family with young children.

Once they'd thought of their ideal resort, the speakers with <u>brain injury</u> couldn't describe a holiday from someone else's perspective. But they didn't have this problem when simply asked about two other types of holiday-makers. The problem only emerged when self-thoughts were activated first.

Understanding social cognition and how it can be disrupted in different kinds of <u>brain disorders</u> holds great promise for better assessment and remediation of social difficulties. It also promises to unlock knowledge of how our brains are wired to enable us to function in a social world.

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