

# Pardon the expression

Wrinkle-busting products such as Botox could inhibit users' ability to interpret other people's emotions, writes SUE WHITE.

**B**otox may iron out pesky facial wrinkles with aplomb but as demand for injections booms, the lust for smooth skin might also be injecting havoc into people's emotional states.

For some, the interplay between Botox and their state of mind isn't hard to detect.

"I don't think [cosmetic users] are buying Botox per se; they're buying the 'good mirror morning,'" says a cosmetic physician, Neal Hamilton.

"It's like a good hair morning, where you have internal strength and good feelings to face all the other crap in your day."

But the links between Botox and "good feelings" are being questioned by some researchers. Social psychologist David Neal, a former professor at the University of Southern California who is now the director of Melbourne-based Empirica Research, says facial muscles play an important role beyond the physical.

"Our inner emotions obviously cause our facial expressions but our facial expressions can also cause our emotions to some degree," he says. The way humans interpret facial expressions isn't a solo endeavour. In conversation, people subtly contract facial muscles to match those of their speaking partner, in a process Neal calls micro mimicry.

"When we mimic someone, our brain picks up on the matched facial expressions we're making and this helps us work out what the other person is feeling," Neal says.

So what happens when you mess with the mimicry process? To find out, Neal took two small groups and gave one Botox. The other group received dermatological filler.

"We compared their ability to look at a photograph and work out what emotion the person was feeling," he says. "We found people who'd had

Botox were significantly worse at the exercise. They showed about a 7 per cent decline in face-reading ability."

The find might be significant for scientists but it's not something those having regular Botox treatment are likely to be aware of. "We're talking about psychological

confusion from the get-go.

"The first thing a neuropsychologist does when a client walks into the room is look at their facial expressions and note whether there's some abnormality," he says. "If someone with Botox came in and you didn't know [they

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Mark Williams, cognitive neuroscientist

processes that are unconscious and automatic," Neal says.

One man well versed in what happens beneath the surface is Mark Williams. A cognitive neuroscientist and associate professor at Macquarie University, Williams is an expert in facial expression perception, where Botox can cause

had received injections], you'd probably suspect they had a neurological disorder based on the fact they didn't have that normal range of expressions."

Williams says the micro mimicry issues associated with Botox users make neurological sense. "When we look at someone who's smiling, we

generate the same motor plan in our brain, so we can actually understand that they're smiling," Williams says.

This neurological programming partly explains why those with autism struggle to connect with others' emotions. Autistic patients often take the same photograph test Neal used on Botox subjects.

"You actually feel happier if you're smiling, or feel angrier if you're frowning," he says. So it seems logical to avoid anything that messes with the ability to express emotions. Or save products such as Botox for medical uses – releasing the muscle tension behind the tics of stroke victims, for example.

But logic overlooks humans' attraction to beauty. "Being attractive is a real cultural advantage," Neal says. "We tend to assume attractive people have other positive traits."

