

New VR 'superhero therapy' crushes chronic pain

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Credit: University of South Australia

We've all heard of the Incredible Hulk, the green-skinned, muscular superhero with limitless strength. So imagine what you could do if you could assume his persona and power?

Using [virtual reality](#) (VR), researchers at the University of South Australia are examining just this, exploring how superhero-like avatars can help people manage chronic and [persistent pain](#).

The new "Superhero Therapy," engages patients in VR where they "swap" their body with that of a superhero to convince the [brain](#) and nervous system that the body is invincible, healed and no longer in pain.

[In Australia, one in five people struggle with chronic pain.](#) While management strategies for chronic pain may help, there is no cure and further innovations are needed.

Lead researcher and 2023 SA Young Tall Poppy of Science, Dr. Daniel Harvie, says mixing [brain science](#) with virtual reality could help solve persistent pain.

"Pain is usually triggered by an injury, but in some people, it hangs around even after the body is healed," Dr. Harvie says.

"Now, instead of just treating the site of pain in your body, we know that we may also need to re-train the nervous system.

"Using VR 'Superhero Therapy,' people debilitated by pain can 'swap' their real body for a superhero's, such as 'the Incredible Hulk.' In doing so, a person with chronic pain, who feels weak and vulnerable, can literally see, and experience themselves as a super strong, muscular character.

"The visual synchronization of virtual and real bodies triggers an update of the users' brain-held representations: from those aligned with injury (which are pain promoting) to those consistent with a resilient body (which are pain suppressing). Remarkably, people feel immediately stronger, agile, and more resilient."

While the [research](#) is ongoing, initial results show that when people enter a world of digital reality, their mind is immediately taken off their symptoms and their pain tends to drop. And just like practicing any skill,

the more you do it, the better you become.

"We are at a historical juncture in the way pain is managed," Dr. Harvie says.

"Virtual reality is an amazing, brain targeting, perception-altering tool that can be used to train the [nervous system](#) and address some of the challenges for people with [chronic pain](#).

"I really think it won't be too long before we see VR in physio and occupational therapy clinics as a core part of every management of people with pain."

Provided by University of South Australia

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