

# Words such as racist slurs can literally hurt—here's the science

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Rishi Sunak, the British prime minister, recently [spoke of feeling hurt and angry](#) at racist comments made about him during the UK election campaign. Anyone who's experienced racist or other discriminatory

language is likely to know what this is like.

But is it more than just an emotional feeling? Research suggests that although words are abstract they really can cause a reaction similar to physical hurt. In fact, pain is intimately linked to language.

A 2022 study from the Netherlands described short verbal insults as lexical "[mini-slaps in the face](#)". The team measured physical reactions to short insults such as "Paula is a liar" using two techniques. One was electroencephalography, which records [electrical signals](#) from the brain through sensors on the scalp, and the other was skin conductance, which is a measure of changes in sweat production.

The team found clear, measured reactions to the insults across different parts of the brain. It is difficult to compare results directly with neural responses to [physical pain](#), but the authors suggest the result could be seen as comparable to a slap in the face.

That's because the response occurred rapidly and then faded. In fact, the longevity of the reaction was no longer than the measured response to compliments. The researchers were cautious to point out that their results were based on insults in a lab setting, without much context, so they could be very different from the experience of being insulted in everyday life.

It may be tempting to think the idea of a slap is just a metaphor. But metaphors shape how we think. They have real power which affects us every day. Put simply, a metaphor is where the language of a simpler real-world experience is used to describe something more abstract.

A very clear example of the real-world effect is when Donald Trump compared COVID to influenza. [A survey of US citizens](#) then showed that people who associated it more strongly with the flu were less likely

to take precautions such as social distancing.

There are many others well known links between language and pain. Numerous studies have shown that a person can hold their hand in iced water significantly longer by shouting out "fuck" when compared with made up new swear words such as "fouch" or "twizpipe". In [one such study](#) the team found that even when participants repeated the made-up words it had no effect on the person's threshold for pain.

The authors concluded that, unlike made-up words, swearing is something that is learned during childhood, and associated with a lot of emotion. That the fake words provided no pain relief at all suggests that the effect of swearing isn't down to the sound of the word, or as a potentially amusing distraction. Instead it is the rich emotional connections of the language that can help relieve—or increase—pain.

## **Language and identity**

The racist aspect of an [insult](#) connects to deeply held feelings of who we are and our identity as a member of a certain ethnic group. So it's interesting to ponder whether racist insults in our own language hurt more than insults in a foreign language.

There is in fact some evidence supporting this—though not directly on insults. One a team of researchers looked at language and pain in 80 bilingual participants (English and Spanish) in Miami.

[In the study](#), the researchers applied the same level of pain-inducing heat to their participant's arm. They then investigated whether the pain felt different depending on whether the participants were speaking English or Spanish while discussing the experiment and applying heat.

They discovered that the participants felt the most pain and produced a

larger physical response when the participants were speaking the [language](#) they most strongly identified with. The potential influence of our identity could be a strong factor that is yet to be fully explored in studies of racist insults.

Finally, it is important to consider [the real-world effects of verbal abuse](#). This type of abuse can occur between friends, colleagues, [family members](#)—practically any type of relationship we have—and that may make it even worse.

People may be afraid of their abuser, feel that they are always having to walk on eggshells or feel threatened by someone. As potential impacts can include anxiety, a decrease in [self-esteem](#) and [post-traumatic stress disorder](#) (PTSD), there is clear potential for serious harm as a result of verbal abuse.

We may remember being taught "sticks and stones may break my bones but names will never hurt me" as small children. With the potential feeling of a slap in the face, damage to our sense of identity and an increased risk of anxiety and even PTSD, racist abuse is likely even more damaging than many of us imagine.

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