

# THE GULLIBLE BRAIN: HOW SOCIAL NEUROSCIENCE CAN HELP US COMBAT RACISM AND ANTISEMITISM

By PROFESSOR MATT QVORTRUP



**CENTRE FOR  
RESILIENT  
SOCIETY**

# THE GULLIBLE BRAIN: HOW SOCIAL NEUROSCIENCE CAN HELP US COMBAT RACISM AND ANTISEMITISM

By PROFESSOR MATT QVORTRUP

Published in 2025 by The Henry Jackson Society

The Henry Jackson Society  
Millbank Tower  
21-24 Millbank  
London SW1P 4QP

Registered charity no. 1140489  
Tel: +44 (0)20 7340 4520

[www.henryjacksonsociety.org](http://www.henryjacksonsociety.org)

© The Henry Jackson Society, 2025. All rights reserved.

Title: "THE GULLIBLE BRAIN: HOW SOCIAL NEUROSCIENCE  
CAN HELP US COMBAT RACISM AND ANTISEMITISM"

By Professor Matt Qvortrup

£9.95 where sold

The views expressed in this publication are those of the author and are not necessarily indicative of those of The Henry Jackson Society or its Trustees.

Cover image: 3D concept illustration of human brain on blue background by Tavarius at Shutterstock (<https://www.shutterstock.com/image-illustration/blurry-human-brain-on-blue-background-1054825457>).



**CENTRE FOR  
RESILIENT  
SOCIETY**

## About the Author

---

**Professor Matt Qvortrup** is Director of Research at HJS. Also a Senior Research Fellow at the Australian National University, he is a former mediator for the United Nations, and was a member of the US State Department Envoy Team in 2009-2010.

## Acknowledgements

---

The author is grateful to comments and suggestion from Andrew Fox from HJS. The author also wishes to acknowledge input from Professor Russell Gruen, Dean of the College of Health and Medicine at The Australian National University. The usual caveat applies.

## About Us

---



DEMOCRACY | FREEDOM | HUMAN RIGHTS

## About The Henry Jackson Society

---

**The Henry Jackson Society** is a think-tank and policy-shaping force that fights for the principles and alliances that keep societies free, working across borders and party lines to combat extremism, advance democracy and real human rights, and make a stand in an increasingly uncertain world. The Henry Jackson Society is a company limited by guarantee registered in England and Wales under company number 07465741 and a charity registered in England and Wales under registered charity number 1140489.

For more information, please see [www.henryjacksonsociety.org](http://www.henryjacksonsociety.org).

## CENTRE FOR RESILIENT SOCIETY

---

## About the Centre for Resilient Society

---

The **Centre for Resilient Society (CRS)** is a citizen-focused, international research centre within the Henry Jackson Society, which seeks to identify, diagnose and propose solutions to threats to the social resilience of liberal Western democracies.

The centre's work includes addressing the twin challenges posed by radicalisation and terrorism. The centre is unique in addressing violent and non-violent extremism. By coupling high-quality, in-depth research with targeted and impactful policy recommendations, it aims to combat the threat of radicalisation and terrorism in our society.

The centre's work also includes broader challenges of democratic resilience – including threats from both foreign interference and domestic issues. This includes the potential harm that various forms of social, cultural and political insecurity, conflict and disengagement can pose to the long-term sustainability of democracies, including the resilience of their institutions, public policy outcomes, citizens' health and wellbeing, and economic growth and prosperity. It also explores the balance between free speech and hate speech, and encourages respectful debate between those of different views, rather than cancellation. Moreover, it underscores how social and political instability can make nations vulnerable to internal and external actors seeking to deepen cleavages, undermine consensus and, ultimately, to weaken democratic functioning.

## Contents

---

<b>About the Author .....</b>	<b>2</b>
<b>Acknowledgments .....</b>	<b>2</b>
<b>About The Henry Jackson Society .....</b>	<b>3</b>
<b>About the Centre for Resilient Society.....</b>	<b>3</b>
<b>Introduction .....</b>	<b>5</b>
<b>Sociobiology - and Hidden Racism.....</b>	<b>6</b>
<b>Tobacco on Your Brain.....</b>	<b>12</b>
<b>Conclusion.....</b>	<b>16</b>

## Introduction

---

Here is a story from the real world, and a bloody brutal one at that.

He never stood a chance. His first mistake was looking for food alone; perhaps things would have turned out differently if he'd been with someone else. The second, bigger mistake was wandering too far up the valley into a dangerous wooded area. This was where he risked running into the Others, the ones from the ridge above the valley. At first, there were two of them, and he tried to fight, but another four crept up behind him and he was surrounded. They left him there to bleed to death and later returned to mutilate his body. Eventually, nearly 20 such killings took place, until there was no one left, and the Others took over the whole valley.<sup>1</sup>

So started an article in the famous *Foreign Affairs* magazine. You could be excused for thinking that this was a tale from the Peloponnesian War, in which “the weak suffer they must”, as the historian of that conflict wrote.<sup>2</sup> Or, maybe, that it was a brutal scene from the Rwanda Genocide in 1994. In fact, it was neither. Though it happened in a place geographically close to the latter. The victim, as it happens, was not even human. He was a chimpanzee. For the male chimps in one group systematically kill the neighbouring males, kidnap the surviving females and expand their territory. Just like humans do. The author of the article even cited some chimp criminology, highlighting that our nearest evolutionary relatives are about 30 times more likely to kill a member of a neighbouring group than a member of their own tribe. On average, eight males gang up on the victim.

We share 98% of our DNA with chimpanzees. So maybe it is not really so surprising that humans also divide the world into ‘us’ and ‘them’, that we too can be cruel, vicious and inhumane. But there is a difference. We are endowed with rationality and reason to a degree that these primate are not. So might we be able to persuade people not to pursue the hatred that gave rise to the chimp murder? And could social neuroscience play a role in this?

For if we know for certain which parts of the brain get activated by specific stimuli (advertisements, infomercials and the like), might we be able to persuade people in a positive way and to convince them not to engage in hate crimes, racism and other forms of discrimination? This may seem a vain hope. The following pages will show something else.

---

<sup>1</sup> Robert Sapolsky, “This is Your Brain on Nationalism: The Biology of Us and Them”, *Foreign Affairs*, March/April 2019, Vol. 98, No. 2, pp.42-47, <https://www.foreignaffairs.com/world/your-brain-nationalism>, p.42.

<sup>2</sup> Thucydides, *The Peloponnesian War* (London: Penguin Books, 1954).

## Sociobiology – and Hidden Racism

You might object here. Humans, surely, cannot be understood through the prism of science? Surely we are more advanced? Surely sociology not biology is key to understanding human behaviour? In fact, the very first political scientist, the philosopher Aristotle (384–322 BC), explicitly called us a *zoon politicon* – a political animal. Because he realised that we are literally ‘animals’. The ancient Greek thinker was also a gifted biologist (and even founded this discipline). But when dealing with our species, he was using his insights from science to understand politics.

This way of looking at things was more or less abandoned in the Renaissance, under the influence of so-called humanist thinkers. But it re-emerged in the 20th century when sociologists began to use analogies of the human body to explain how societies functioned. The biologist Edward O. Wilson took it a step further, coining the term “sociobiology”<sup>3</sup> and defining the new discipline as “the extension of population biology and evolutionary theory to social organization”.<sup>4</sup>

Wilson had written a seminal book on ants and had shown that the social little animal was, in fact, anything but. In fact, they are more prone to going to war than humans and chimps. Biologists – especially those like Wilson who specialised in insects – took the view that engaging in wars and other forms of aggression without any seeming motivation was something that characterised many species. Chimpanzees were one example. So too were ants.<sup>5</sup> So maybe we are just like ants and chimps? Maybe we are born – literally – inhumane?

Back in the day, say in the 1930s, it was acceptable to be prejudicial. Even great and admired philosophers have expressed uninhibited racist views. Immanuel Kant, for one, wrote that “Negroes... have by nature no feeling that rises above the ridiculous”<sup>6</sup> and that the native American population is “incapable of all culture”.<sup>7</sup>

After the end of colonialism, and following the genocides of the 20th century, to utter such opinions is simply no longer acceptable. Today, few people admit to being racists. Thank God for that. Still, some people harbour thoughts, things they wouldn’t say in public. And occasionally, people express views to their close circle that display worrying signs of Islamophobia, homophobia and antisemitism.

You probably agree with me that we need to do everything we can to combat this. I hope so, anyway. But, you may ask, is the problem really that bad? Isn’t racism and antisemitism a thing of the past? Social statistics, sadly, indicate that it is not. One statistic will suffice. It comes courtesy of a report by Reuters:

Religious hate crimes in England and Wales rose by 25% in the year ending March 2024, primarily driven by an increase in anti-Jewish offences following the outbreak of the Israel-Hamas conflict last October, official data showed on Thursday. The interior ministry said the number of offences recorded by police as motivated by a person’s religion or perceived religion rose to 10,484 from 8,370 the previous year.<sup>8</sup>

<sup>3</sup> Edward O. Wilson, *Sociobiology: The new synthesis* (Cambridge MA: Harvard University Press, 1975).

<sup>4</sup> Ibid. p.x.

<sup>5</sup> Joshua Blu Buhns, *The Fire Ant Wars: Nature, Science, and Public Policy in Twentieth-Century America* (Chicago: University of Chicago Press, 2004), pp.32–34.

<sup>6</sup> *Immanuel Kant: Observations on the Feeling of the Beautiful and Sublime and Other Writings*, eds. Patrick Frierson and Paul Guyer (Cambridge: Cambridge University Press, 2011), p.58 (AA II, 253).

<sup>7</sup> Kant, I., *Schriften zur Naturphilosophie* (Frankfurt aM: Suhrkamp Verlag, 1968), p.176.

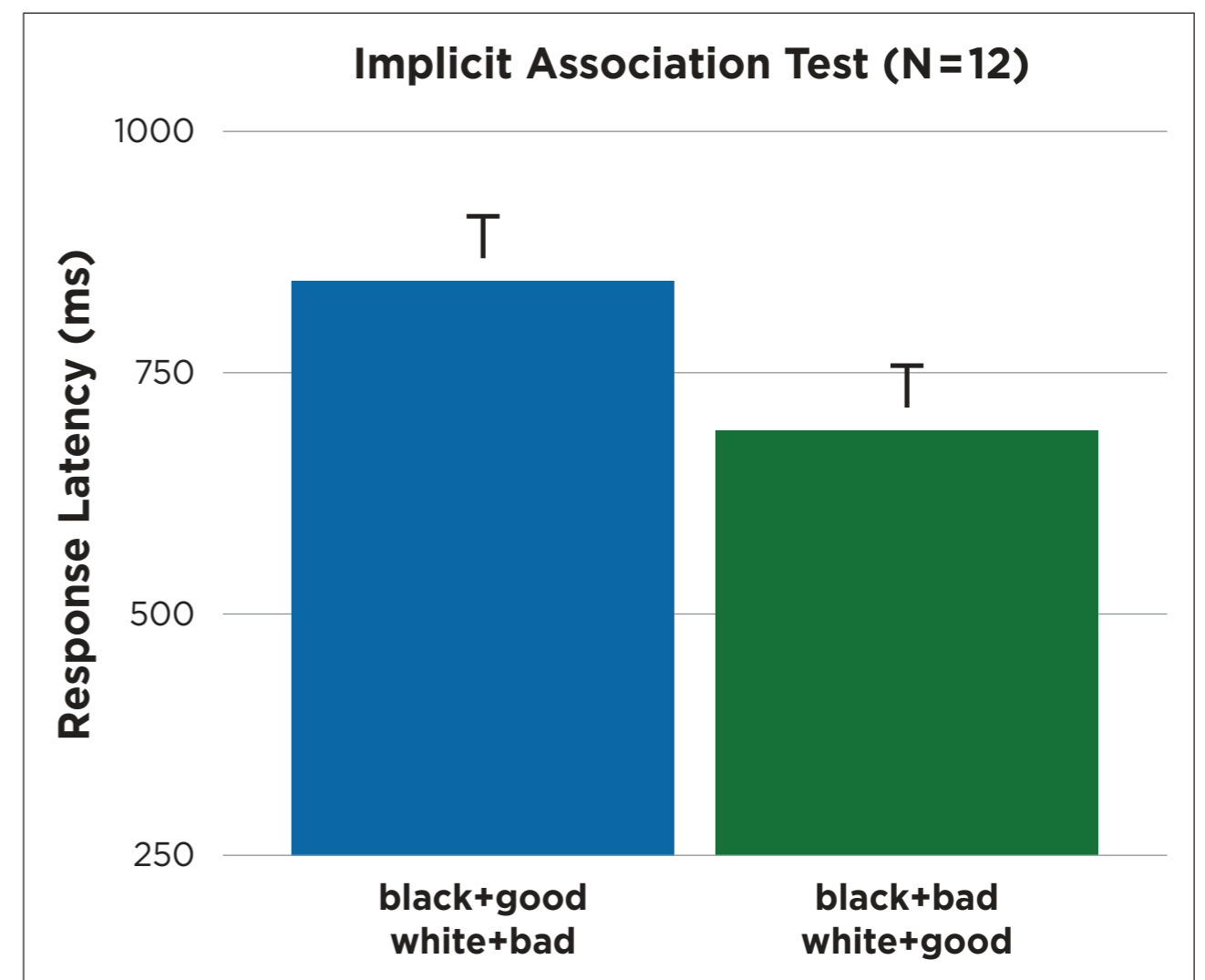
<sup>8</sup> “Religious hate crimes up 25% in England and Wales, driven by anti-Jewish offences”, *Reuters*, 10 October 2024, <https://www.reuters.com/world/uk/religious-hate-crimes-up-25-england-wales-driven-by-anti-jewish-offences-2024-10-10/>.

These figures – alongside similar statistics for other kinds of phobia – are sad in every way. But might these figures be misrepresenting reality? Might things be even worse?

You will not be surprised to hear that social neuroscience has an answer to this which we will, of course, return to shortly. But traditional psychology has an answer too. And in some ways, the two go together. Psychologists have developed what is known as the ‘implicit association test’. This is, to put it in layman’s terms, a way of understanding what people ‘really’ think about minority groups, gays, other races, etc. These views will often reveal themselves in subconscious associations between the way we see other people and how we react.<sup>9</sup>

The scary – and sad – thing is that most people, even when they say they are tolerant, are anything but. This is what a researcher found when she sent a questionnaire to people – the data showed something else. Even if people did not admit to being racist, the results of the implicit association test revealed that – subconsciously – they were (as you can see in Figure 1). People associated black people – in this example – with negative traits, whereas they had positive associations when they were shown images of white (Caucasian) people.

**Figure 1:** E. Phelps, et al., “Performance on Indirect Measures of Race Evaluation Predicts Amygdala Activation”, *Journal of Cognitive Neuroscience* 12, 5 (2000), p.731.

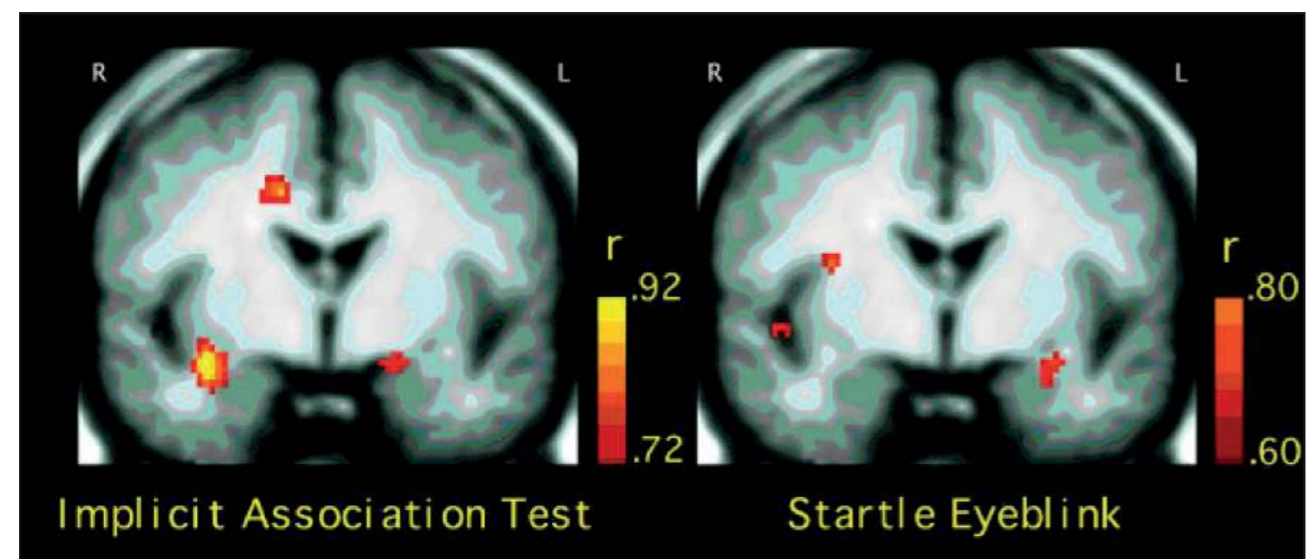


<sup>9</sup> Anthony G. Greenwald, Debbie E. McGhee and Jordan L. K. Schwartz, “Measuring individual differences in implicit cognition: The implicit association test”, *Journal of Personality and Social Psychology* 74 (6) (1998): 1464–1480.

So far, so reprehensible. But the researchers went one step further. Instead of just subjecting these closet racists (for this is what they were) to a psychological test, they also employed social neuroscience. At the time when the study was carried out, fMRI-scans (which measure blood oxidization and hence show which parts of the brain are activated) had more or less just been invented. So they were breaking new ground when they put people under the fMRI scanner when they ran the next experiment. It divided into two. First, the people who did the implicit association test had their brains scanned, and after that the same people were shown photos of people from a different racial group.

In both cases, a part of the brain called the amygdala was activated, among other centres (see Figure 2). So when they heard or read the statements about black fellow citizens, their amygdala was activated. More interestingly, when people saw photos or films of people of a different race, their eyes were startled and, once again, their amygdala was activated.

**Figure 2:** Phelps, et al., “Performance on Indirect Measures of Race Evaluation”.



Why is this important? You may or may not know that the amygdala has been called the ‘fear and fight’ centre of the brain. It is not quite as simple as that. Nothing ever is in social neuroscience. But it is certainly the case that “clinical observations suggest that humans with amygdala damage have abnormal fear reactions and a reduced experience of fear”.<sup>10</sup> The amygdala is not part of the cerebral cortex (that is, the higher site of the more advanced functions of the brain), let alone the ‘thinking parts of the brain’, which are mainly located in the frontal lobes. It is a part of the brain we share with many other, less advanced, animals. It is largely instinctive. So when we see a rattlesnake or when someone runs towards us with an axe, the amygdala kicks in and makes us adopt a defensive position even when we are not fully cognisant of this. The fact that people unconsciously react in this way when they see faces of a different colour is supremely concerning.

It should be said, though, that this reaction is not universal. In this experiment, the research subjects were shown the faces of African Americans they didn’t know. People in another experiment that was referenced in the same study were shown faces of well-known, liked and hence unthreatening people – and the reaction was different. When scans were taken while the subjects were shown photos of Muhammad Ali, Arsenio Hall, Michael Jordan, Martin Luther King Jr, Will Smith and Denzel Washington, and Caucasians like Tom Cruise, Harrison Ford,

<sup>10</sup> Justin S. Feinstein, et al., “The Human Amygdala and the Induction and Experience of Fear”, *Current Biology* 21(1) (2011): 34.

John F. Kennedy and Jerry Seinfeld, there was no amygdala activation. I will tell you more about that shortly, for it is significant. But for now, suffice it to say that racial bias is very much towards the unknown; to a large degree, it is a reaction towards the stranger, and we tend to associate the stranger with a threat.

Social neuroscience is a complex business. And it is important that this research is not simplified too much. When such experiments are carried out, other parts of the brain are activated too, of course. Merely looking at things means that we activate the occipital regions towards the back of the brain simply because this is where visual inputs are processed.

What is also of interest is the other, if you like, ‘thinking’ parts of the brain that showed up on the fMRI scans. One of them was the insula. As the Latin name implies, this is an island of grey matter on the side of the brain under the flap of brain under the temples. Why is this so interesting? Sadly, because this part of the brain – among many other things – is responsible for feelings of disgust.<sup>11</sup> So it is not only that these people felt threatened and fearful (activating their amygdala) when they saw black people, they were also showing signs of outright disgust. They probably wouldn’t admit to this. I hope not. But the scans, so to speak, don’t lie. It is really rather sad.

Another part of the brain that showed up in the scans is the right anterior cingulate cortex. This is located in the valley in the frontal part of the brain. Does that change the conclusion that these people were, so to speak, hardwired to be racist? Yes, it does a little bit. The ACC (as it is known by brain scientists) is a part of the brain that deals with many things. It is involved with empathy and feeling other people’s pain. But it also shows up in scans when the subjects are involved in what is known as affect-regulation, which is another way of saying the ability to control and manage uncomfortable emotions.<sup>12</sup> So perhaps we can see this as an unconscious admission of guilt? Or perhaps, less dramatically, as the brain’s recognition that disgust and fear of other races is something socially unacceptable; something that has to be kept within the socially acceptable norms. So if the ACC is activated, it is a way of glossing over racism. Which is not good really.

This attitude, I hope you will agree, is completely unacceptable. I also hope you share my view that something needs to be done about this. But what?

Perhaps, and I am not being entirely facetious, we could take an anti-racism pill? I am using this example because an experiment by Oxford University actually found that taking a drug called Propranolol actually reduces implicit negative racial bias.<sup>13</sup> This drug is a so-called beta-blocker, one that is often given to people who suffer chest pain, high blood pressure, heart rhythm disorders and, well – implicit racism.

But here we obviously have to get real. Yes, racism – and implicit bias – is a ‘disease’, but it is not one that can be treated like the common cold, cholera or constipation. It is unrealistic, and probably undesirable too, to prescribe pills for the mass of the population who have negative scores on the implicit association test.

So, is there anything else we can do? Or is it just a (tragic) fact of life that we feel prejudice towards people with a different skin colour, ethnic background or religious affiliation?

For a long time, scholars and researchers (grudgingly) conceded the point that a lot of people were ill-disposed towards other people. For example, in the early 2000s, psychologists from

<sup>11</sup> Bruno Wicker, et al., “Both of Us Disgusted in My Insula: The Common Neural Basis Of Seeing and Feeling Disgust”, *Neuron* 40(3) (2003): 655-664.

<sup>12</sup> Francis L Stevens, Robin A Hurley and Katherine H Taber, “Anterior cingulate cortex: unique role in cognition and emotion”, *The Journal of Neuropsychiatry and Clinical Neurosciences* 23(2) (2011): 121-125.

<sup>13</sup> Sylvia Terbec, et al., “Propranolol reduces implicit negative racial bias”, *Psychopharmacology* 222 (2012): 419-424.

the University of Chicago sent out over 4000 CVs to employers in Boston and Chicago. The result confirmed the negative suspicion. Those with typical American names like Emily or Greg were called to interview. Those with names that sounded 'ethnic', like Lakisha and Jamal, were not. There were 50% more call-backs for those with Caucasian-sounding names – even if they had the same qualifications.<sup>14</sup>

Perhaps there was an underlying reason for this? Perhaps our brains are hardwired to hate and there is nothing we can do about it? Maybe it is just one of those sad facts of life, like the fact that I will never date Selma Hayek or that the Toronto Maple Leafs (my favourite NHL-team) will never win the Stanley Cup? Only much more serious and tragic.

It seemed like it. When researchers carried out an experiment where Caucasian and Chinese subjects watched videos of people in pain they reported that:

Using functional magnetic resonance imaging we demonstrate that, whereas painful stimulations applied to racial in-group faces induced increased activations in the ACC and inferior frontal/insula cortex in both Caucasians and Chinese, the empathic neural response in the ACC decreased significantly when participants viewed faces of other races.<sup>15</sup>

Perhaps not the most reader-friendly way of putting it, but clear all the same. The empathy parts of the brain get activated when 'your own' people are in pain, not when those of another group suffer.

But all the subjects who were tested in this experiment were from the countryside or from areas that had little contact with other people. And we know from various accounts that bias towards 'the other' is often associated with not knowing people of that race, political persuasion or sexual orientation.

So could it be that people would gradually begin to feel the pain of others as they got to know people of a different ethnic background?

One way to find out is to scan the brains of people who have recently moved to a more multi-ethnic, multicultural society. Researchers from the Queensland Brain Institute recruited people from China who had arrived in Australia within the past six months to five years. This is how they described their experiment.

During fMRI, participants observed videos of own-race/other-race individuals, as well as own-group/other-group individuals, receiving painful or non-painful touch. The typical racial bias in neural responses to observed pain was evident, whereby activation in the anterior cingulate cortex (ACC) was greater for pain in own-race compared to other-race people.<sup>16</sup>

So far, so sad. But when they looked at people who had lived in Australia for a long time, they found something else; something altogether different and much more positive:

...activation in the anterior cingulate to pain in other races increased significantly with the level of contact participants reported with people of the other race. Importantly, this correlation did not depend on the closeness of contact or personal relationships, but simply on the overall level of experience with people of the other race in their every-day environment.

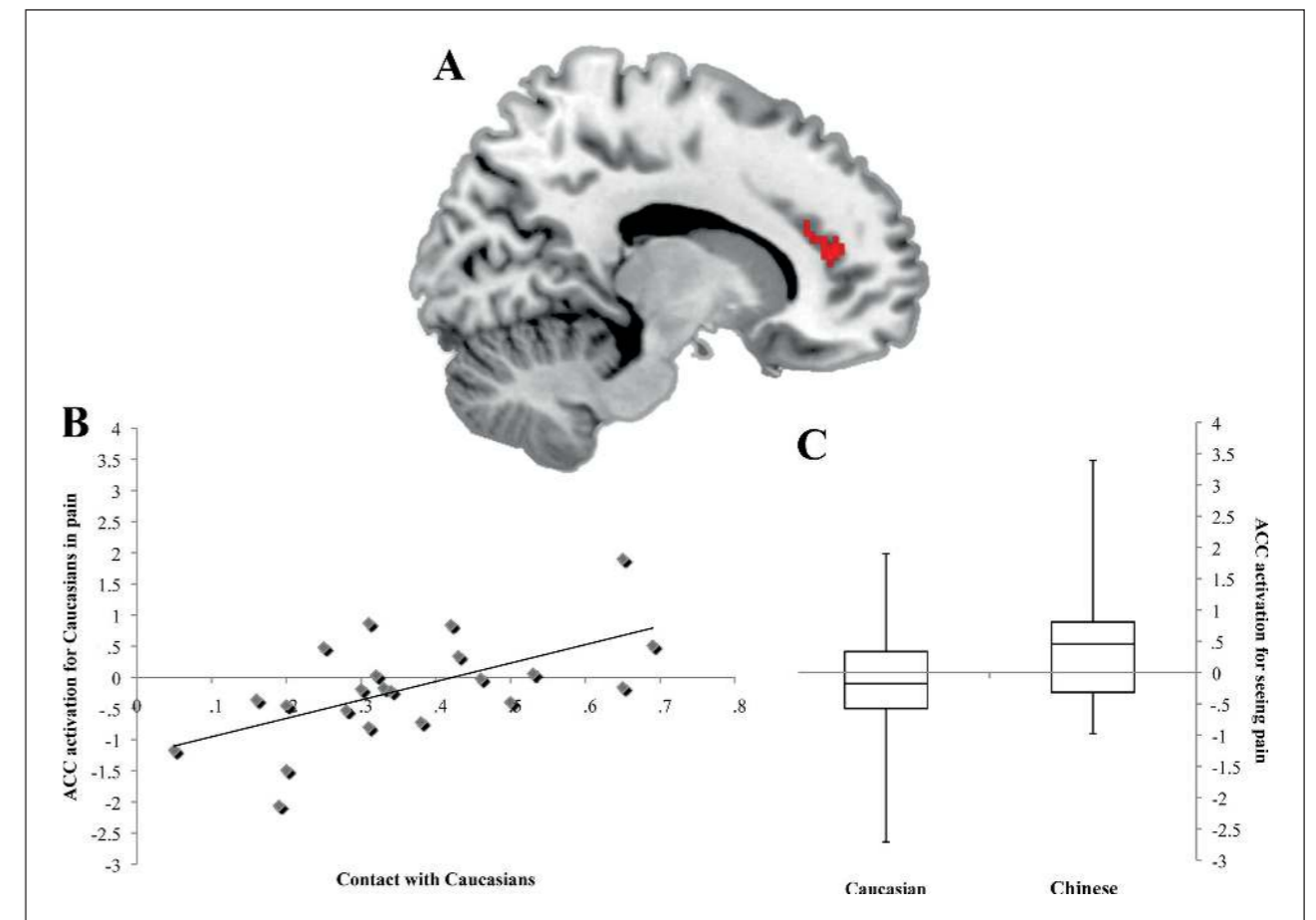
<sup>14</sup> Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination", *American Economic Review* 94(4) (2004): 991-1013.

<sup>15</sup> Xiaojing Xu, et al., "Do you feel my pain? Racial group membership modulates empathic neural responses", *Journal of Neuroscience* 29(26): 8525-8529, at p.8525.

<sup>16</sup> Yuan Cao, et al., "Racial bias in neural response to others' pain is reduced with other-race contact", *Cortex* 70 (2015): 68-78.

Again, not the clearest of language – they were writing in a scientific journal after all. But the message is clear: if you live with other people, if you learn – by interaction – to see them as human, then you 'feel their pain'. As they went on to say, "Racial bias in neural responses to others' pain, as a neural marker of empathy, therefore changes with experience in new immigrants at least within 5 years of arrival in the new society and, crucially, depends on the level of contact with people of the other race in every-day life contexts."

**Figure 3:** Cao, et al., "Racial bias in neural response to others' pain is reduced with other-race contact", *Cortex* 70 (2015): 68-78.



As you can see in Figure 3, the graph from their study, the more contact the Chinese have with the Caucasians, the more they activate the ACC (shown in red on the image of the brain).

So far and, this time, so good. We are not hardwired to be racists – when we have contact with people of other races, creeds, etc., we start to feel empathy towards them.

But, and this is the important (and challenging) bit, it is not really practical for people to just live together. And we don't really have five years to wait. It is, of course, a positive that the Chinese immigrants to Australia became less racist over time. But it is difficult to see how this insight – welcome though it is – can be turned into a public policy. Sure, it is helpful to know that we are not innately racist. It is a starting point. Getting people to live in more multicultural areas might be a strategy. But it takes time. And immigrants are often poorer and cannot afford to live in more affluent areas. So what else can we do?

One possibility is to use the tools of neuromarketing. Others have used this idea in the past – harnessing the insights of social neuroscience has, for example, been used in campaigns to encourage people to stop smoking.

## Tobacco on Your Brain

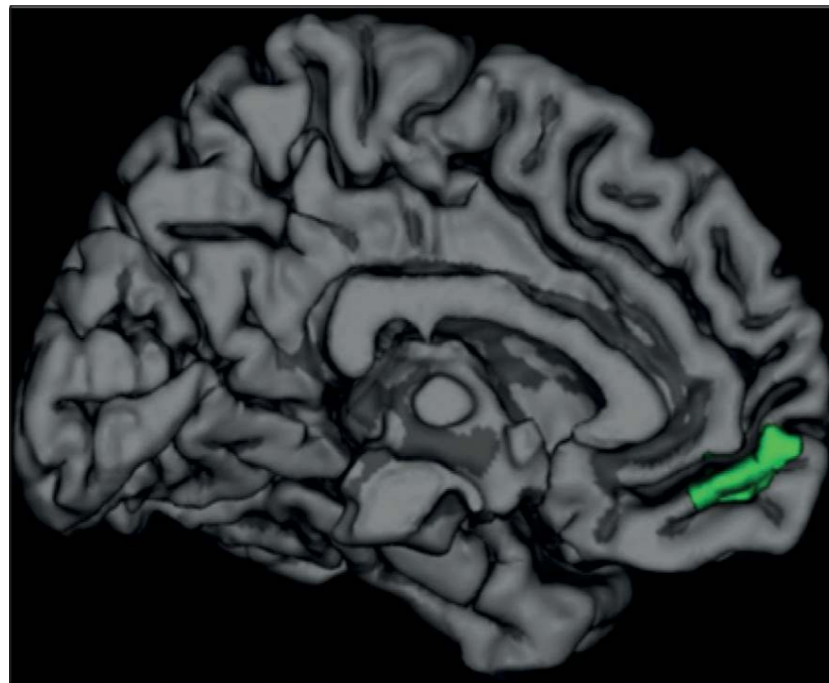
You don't have to be an accountant to know that the world has limited resources. So it stands to reason that we want to know if money is being well spent on information campaigns. Throwing good money after bad – especially if it is the taxpayers' money – is never a good idea. This was the problem that faced the US National Cancer Institute's helpline. The good folks at the NCI wanted to help smokers quit. But how? Well, with adverts, of course – what else? But which adverts? How could they be sure that the ones they had selected were efficient?

They had devised three campaigns, which – not being very imaginative – they called A, B and C. To be on the safe side, they decided to ask focus groups made up of smokers to rank them according to efficiency. When they tested the messages with the focus groups, the ranking came back as B, A and then C.

Now, some people have expressed concern that these techniques may not work quite as effectively as it was once believed. In fact, some believe this approach to understanding public opinion and preferences is rather useless.<sup>17</sup>

So the NCI went old-school elitist. They asked a group of marketing experts which of the ads was the best and most effective. The answer was the same – B, followed by A and then C.

This would normally have settled the matter, except that the NCI were a diligent bunch. So they decided to consult a social neuroscientist. Emily Falk and her collaborators had already carried out research on addiction and information campaigns. In these studies, they had analysed brain scans of people's responses to statements about smoking and alcohol,<sup>18</sup> so they seemed an appropriate choice. In their studies, they found the ventromedial prefrontal cortex – the part of the brain associated with self-evaluation and behaviour changes (the area highlighted on the illustration below) – was activated when people watched different video clips.



<sup>17</sup> Seth M. Noar, "A 10-year retrospective of research in health mass media campaigns: where do we go from here?", *Journal of Health Communication* 11 (1) (2007): 21-42.

<sup>18</sup> Emily B. Falk, et al., "Neural Activity During Health Messaging Predicts Reductions in Smoking Above and Beyond Self-Report", *Health Psychology* 30(2) (2011): 177.

They followed the same format when they analysed the NCI information ads.<sup>19</sup> But here is the thing – when the researchers carried out their fMRI scans, the order was different. The activation of the ventromedial prefrontal cortex was highest for C, followed by B and then A.

Of course, this could just indicate that the social neuroscience results were not so good after all. How could the research team find out? They tracked the number of people who rang the 1-800-QUIT-NOW-helpline after each of the ads had aired. After all, ringing the helpline was a good proxy-measure of how effective the ad was. So, which was the most effective?

You will probably not be surprised to hear that the order was C – B – A, exactly as predicted by the neuroscientists. So, based on this quite ingenious experiment, it seems that neuromarketing works. Of course, one swallow maketh not a summer, and a single study is but that, and earlier studies have been less conclusive.<sup>20</sup> But still. That a small study of 32 individuals could better predict the effectiveness of an ad campaign than skilled professionals and the smokers themselves is worth writing home about.

So, might this be used in other areas? And could it be that more objective information is better than scaremongering?

It is easy to be cynical about advertising and information campaigns. Often the default position is to go for sensationalism instead of cerebral approaches. Just think of the ubiquitous campaigns against smoking, like the one I already told you about.

People urged to kick the habit are subjected to endless graphic pictures of rotting teeth, bleeding ulcers and cancer-infested lungs. But do scaremongering campaigns work? The researchers who carried out the study for NCI didn't go into details. So the question remains – are people more susceptible to public health campaigns based on solid evidence and advice? This question has remained unanswered for years.

Now social neuroscience can shed light on it. And the findings are surprising. In a study published in the journal *Neuroimage*, Daniel D. Langleben scanned people who watched, respectively, scare campaigns and neutral images. He found that, neurologically speaking, emotive campaigns only activated parts of the brain in their visual cortex. However, when people were shown information-rich videos, the higher parts of the brain were activated, such as the orbitofrontal cortex – a part of the frontal lobes associated with emotion, reward value and reward-related decision making. In addition, the hippocampus was activated in those exposed to information-rich public service statements – the part in the mid-brain that is associated with memory. The reverse is not the case with sensationalist, scaremongering campaigns.<sup>21</sup>

So, from the point of view of social neuroscience, education works – scaremongering does not.

Could this be the key to educating people about the curse of racism and antisemitism? Could it be that actual information campaigns work better than the messages focusing on emotional appeal? In other words, could it be that neutral campaigns with factual information are better at educating people about hatred towards a specific minority group? Could social neuroscience help us in crafting messages?

The answer would seem to be in the affirmative. Falk and her colleagues' experiments confirmed Langleben's results: "evidence demonstrates that activity within brain systems

<sup>19</sup> Emily B Falk, Elliot T Berkman and Matthew D Lieberman, "From neural responses to population behavior: neural focus group predicts population-level media effects", *Psychological Science* 23(5) (2012): 439-445.

<sup>20</sup> Barbara J. Sahakian and Julia Gottwald, *Sex, Lies, & Brain Scans: How fMRI reveals what really goes on in our minds* (Oxford: Oxford University Press, 2017), p.105.

<sup>21</sup> Daniel D. Langleben, et al., "Reduced prefrontal and temporal processing and recall of high 'sensation value' ads", *Neuroimage* 46, no. 1 (2009): 219-225.

associated with self-related processing can predict individual behaviour in response to health messages.”<sup>22</sup>

However, it could be argued that these results have only been shown in relation to televised ads. Given that only 48% of Gen-Z watch broadcast television,<sup>23</sup> are these findings at all useful in today’s media landscape?

One argument could be that many of this age group watch video messages on the likes of TikTok and Instagram. Statistics show that “Video content had risen to 82 percent of the total content on all social media platforms by the end of 2022” and that it is “roughly 15 times higher compared to the statistics of 2017!”<sup>24</sup> So there is reason to believe that the effects could be the same on the small screen as for televised ads.

This is supported by more recent research. In a paper published in the journal *Behavioral Sciences*, Hedda Šola and her colleagues found evidence of an “untapped potential of neuromarketing in online learning”.<sup>25</sup>

Like in other marketing, influence is based on the two-step hypothesis. Harking back to a famous study in the 1940s, marketing research has been based on the idea that the views of certain ‘opinion formers’ are influenced by ads, and that the views of these people, in turn, affect others.<sup>26</sup> This model, as you have probably already guessed, is identical to the now commonplace view that ‘influencers’ have an impact on how we see the world.<sup>27</sup>

As per usual, a bit of background is useful for those who may not have studied social psychology.

Until Lazarsfeld and his colleagues carried out their famous study in Erie County in 1940,<sup>28</sup> it was widely believed that people who received messages would conform to the so-called *injection model*. In short, they would respond to infomercials and adverts as if they were injected with information into the mental bloodstream. This, however, turned out not to be the case. Rather, it was a two-step process.

Using the sociological concept of primary groups, Lazarsfeld and his colleagues proposed that we are all part of an intimate circle of people, and that we delegate cognitive tasks to other better-informed individuals in our network. For example, if I don’t have time to follow the latest developments in the Premier League, I turn to my friend Dan, who will tell me all about them. Likewise, my friend Em will tell me what I need to know about celebrities and dogs. You get the drift.<sup>29</sup>

When social media and algorithms became a thing in the first decade of the 2000s, it was widely assumed that the injection model worked, and it was as if the earlier research had

<sup>22</sup> Emily B. Falk, et al., “Functional brain imaging predicts public health campaign success”, *Social Cognitive And Affective Neuroscience* 11, no.2 (2016): 204-214, at p.20.

<sup>23</sup> Emma Saunders, “Less than half of Generation Z watch broadcast TV”, *BBC News*, 31 July 2024, <https://www.bbc.co.uk/news/articles/crgm9z1dpkpo>.

<sup>24</sup> Jason Wise, “Instagram Video Statistics 2025 + IGTV Stats (Latest Data)”, *EarthWeb*, 27 June 2024, <https://earthweb.com/blog/instagram-video-statistics/>.

<sup>25</sup> Hedda Martina Šola, Fayyaz Hussain Qureshi and Sarwar Khawaja, “Exploring the untapped potential of neuromarketing in online learning: Implications and challenges for the higher education sector in Europe”, *Behavioral Sciences* 14, no.2 (2024): 80.

<sup>26</sup> Paul F. Lazarsfeld, Bernard Berelson and Hazel Gaudet, *The People’s Choice: How the voter makes up his mind in a presidential campaign* (New York: Columbia University Press, 1968).

<sup>27</sup> Ivana Ercegovic, Mirjana Tankosic and Alica Grilec, “Influence of Two-Step Flow Theory Supported by Neuromarketing Methods on Consumers Perception – The Theoretical Overview”, *Economic and Social Development: Book of Proceedings* (2022): 91-102.

<sup>28</sup> Paul F. Lazarsfeld, Bernard R. Berelson and Hazel Gaudet, *Erie County Study, 1940* (New York: Columbia University Press, 2006-01-12), <https://doi.org/10.3886/ICPSR07204.v1>.

<sup>29</sup> Elihu Katz and Paul F. Lazarsfeld, *Personal Influence* (New York: Free Press, 1955), p.309.

become redundant as influencers could talk directly to consumers.<sup>30</sup> However, more recent research – with more fine-grained data – once again reinforced the impression that influence and impact is subject to the two-step hypothesis. To wit, this model “still had explanatory power in online public forums. Opinion leaders were found to be influentials but not content creators.”<sup>31</sup> In a similar vein, it was also found that some influencers – including celebrities – could perform this role. But the overall finding is that:

In digital platforms, long-standing communication theories, like the 1955 two-step flow model, are still valid, while direct one-step flows and more complex network flows are also present... it is no contradiction that social media participants mainly refer to intermediating amplifiers of communicated messages (39% of the mentions from participants go through this two-step communication flow)...<sup>32</sup>

The task, therefore, is not merely to use social neuroscience to influence behaviour. Rather, the task is to identify opinion leaders and to test their responses to information on issues related to hate and various phobias in a neuroscientific setting – that is to say, using fMRI-scans or similar techniques.

The evidence is clear – and (neuro)scientifically proven. Objective information works. As antisemitism is becoming tragically more prevalent, public information campaigns can work to combat it. There is no time to lose.

<sup>30</sup> See for example, W. Lance Bennett and Jarol B. Manheim, (November 2006), “The One-Step Flow of Communication”, *The Annals of the American Academy of Political and Social Science* 608 (1) (November 2006): 213-232.

<sup>31</sup> Sujin Choi, “The Two-Step Flow of Communication in Twitter-Based Public Forums”, *Social Science Computer Review* 33 (6) (December 2015): 696-711.

<sup>32</sup> Martin Hilbert, et al., “One Step, Two Step, Network Step? Complementary Perspectives on Communication Flows in Twittered Citizen Protests”, *Social Science Computer Review* 35 (4) (2017): 444-461, at p.444.

## Conclusion

---

... neuroscience has the potential to make important contributions to education. These potential contributions are of at least three kinds: novel understanding about the biological and environmental processes determining learning; the identification of early neural markers for educational risk; and neural methods for evaluating different teaching methods for evaluating different teaching approaches, remediation packages or educational debates.<sup>33</sup>

So concluded an official UK Government report in 2008. This report is not the only one to recognise that social neuroscience has an important role to play in education. But much as there is a recognition that “knowledge of how the brain learns could, and will, have a great impact on education”, the “could” of this sentence has not been matched by the ‘will’. To date, the use of social neuroscience remains an untapped source.

This report has proposed to change this. We have shown that using social neuroscience can help us to hone messages in a way that focus groups – and expert opinion – cannot.

This is necessary. Humans are not the only species capable of group-based cruelty towards ‘the other’. It is something we see in animals like ants and chimpanzees. But, unlike these other social animals, we are capable of being influenced by infomercials and adverts.

Social neuroscience has identified areas of the brain that are involved when we subconsciously show racist responses. And we know what happens. But we also know from similar fMRI studies that we are not hardwired to be xenophobic. When people live with and associate with people of a different background or race, they become more tolerant.

But we do not have time to wait for people to become tolerant. So can we do something else? In fact we can, there are studies that show – through testing under the brain scanner – that we can hone messages. When combined with the knowledge of how influencing works, we are in a position to truly harvest the insights of social neuroscience for good purposes.

In the words of Liya Yu, one of the pioneers of this approach, the perspective of social neuroscience:

... does not promise a complete or definitive explanatory framework about why and how exclusion and dehumanisation takes place or how it can be overcome. What it does set out from a viewpoint of political strategy, despite all these caveats, is to offer a neurobiologically inclusionary way to pitch the social contract to those whom we find hardest to convince at a time where there seems very little that opposed groups in our fractured liberal democracies in common.<sup>34</sup>

Social neuroscience is not a panacea but it is an approach that has proved to help us understand what we really think, and which can help us become better and more tolerant of each other. We cannot afford not to use it.

---

<sup>33</sup> Usha Goswami, “Mental Capital and Wellbeing: Making the most of ourselves in the 21st century”, UK Government Foresight Project Report SR-E1, Government Office for Science, September 2008, [https://www.researchgate.net/profile/Usha-Goswami/publication/237456871\\_State-of-Science\\_Review\\_SR-E1\\_Neuroscience\\_in\\_Education/links/0046352d939b178896000000/State-of-Science-Review-SR-E1-Neuroscience-in-Education.pdf](https://www.researchgate.net/profile/Usha-Goswami/publication/237456871_State-of-Science_Review_SR-E1_Neuroscience_in_Education/links/0046352d939b178896000000/State-of-Science-Review-SR-E1-Neuroscience-in-Education.pdf).

<sup>34</sup> Liya Yu, *Vulnerable Minds: The Neuropolitics of Divided Societies* (New York: Columbia University Press, 2022), p.XVIII.

Title: "THE GULLIBLE BRAIN: HOW SOCIAL NEUROSCIENCE CAN HELP US COMBAT RACISM AND ANTISEMITISM"  
By Professor Matt Qvortrup

© The Henry Jackson Society, 2025

The Henry Jackson Society  
Millbank Tower, 21-24 Millbank  
London SW1P 4QP, UK

[www.henryjacksonsociety.org](http://www.henryjacksonsociety.org)



**CENTRE FOR  
RESILIENT  
SOCIETY**