

Decline in psychotherapy



The Improving Access to Psychotherapies programme in England has failed to curb the country's steady, decades-long increase in antidepressant prescription rates, according to a new analysis. Professor Azeem Majeed (Imperial College, London) and his colleagues looked for any changes to prescription rates after IAPT was implemented in 150 Primary Care Trusts (PCTs) across the country (*British Journal of General Practice*: tinyurl.com/m3wsfrp). From 2008 to 2011 they found that prescriptions for antidepressants rose 10 per cent per year and that the introduction of IAPT to a PCT made no difference to this increase.

Their finding coincides with publication of the latest data for England showing that more prescriptions for antidepressants (over 50 million) were written last year than at any previous time. This is despite a growing literature showing that mental health patients prefer psychotherapy to drugs if given the choice, as confirmed by a newly completed meta-analysis conducted by Kathryn McHugh at McClean Hospital and reported on our Research Digest (tinyurl.com/krjdnwz)

The reason for IAPT's failure to

reduce antidepressant prescriptions is unknown, but may be due to GPs prescribing while patients are on an IAPT waiting list, or perhaps the influence of IAPT needs more time to be felt. This news, which will disappoint many clinical and counselling psychologists, arrives in a wider context in which our colleagues across the Atlantic are concerned about the declining practice of psychological therapy and concomitant increase in drug prescriptions.

Writing in the introduction to a special issue of *Clinical Psychology Review* devoted to the challenges facing evidence-based psychotherapy, Brandon Gaudiano (Alpert Medical School of Brown University) and Ivan Miller (Butler Hospital, USA) note that this decline is occurring even as the evidence base for cognitive behavioural therapy and other forms of talking therapy has grown substantially. 'One might think that this deep and expanding evidence base would have promoted a similar increase in the use of psychosocial interventions,' they write, '...but it decidedly has not. Thus, a time that should have been a relative boon for psychotherapy based on scientific

standards, has become more of a bust.'

Gaudiano and Miller's diagnosis is that the decline of psychotherapy is related to psychology's failure to fully embrace an evidence-based approach, leaving it diminished in healthcare systems that are increasingly dominated by evidence-based medicine and treatment guidelines. The pair highlight a 2008 survey of 79 psychologists that found 30 per cent were using controversial, unsupported treatments. More recently, a team led by Gaudiano found that 42 per cent of practising therapists were using empirically unsupported 'energy meridian therapies'.

Related issues, according to Gaudiano and Miller, include the growing dominance of the biomedical model in psychiatry (an issue that's dominated our own news pages over the last few months) and, in the USA, the influence of direct-to-consumer drug advertising and the fall in health insurance reimbursement rates for psychotherapy.

Contributors to the journal special

A-LEVEL POPULARITY

Psychology remained the fourth most popular subject at A-level and AS-Level in 2012 to 2013, despite a slight drop in the number of candidates from the previous year (there were 56088 and 96908 candidates in the most recent intake, respectively). This is against a background of higher numbers taking physics, chemistry and biology. Grade attainment in psychology A-level and AS-level pass rate was also slightly lower this year. In

contrast, the psychology pass rate in the Scottish Highers was up by 5 per cent, and the entries increased by 9 per cent on the previous year (3099 to 3370). CJ



The happy mirror

Imagine looking into a mirror and seeing a slightly happier version of yourself looking back. Do you think it would affect how you feel? A team of researchers led by Shigeo Yoshida at the University of Tokyo have created a webcam system called 'incendiary reflection' that acts like a mirror depicting either a slightly happier or sadder version of those who look into it. The researchers were inspired by the 'facial feedback hypothesis' – the finding that the expression on our face affects our feelings.

'We developed a method for deforming a user's face and transforming a user's facial expression in real time, using an image-processing technique,' Yoshida writes on his website (www.shigeodayo.com). In initial tests people reported feeling more positive after looking at a version of themselves distorted to look happier; and said they felt more downbeat after looking at the sad reflection (see a video about the research at youtube.com/watch?v=IORSFameZZI). A further study involved participants wearing a new scarf as they looked in the 'mirror'. When the reflection was altered to show them smiling back, they were more likely to say they liked the scarf.

The findings were reported in *New Scientist* (tinyurl.com/nkpa5x5) and presented at SIGGRAPH2013 (the 40th International Conference and Exhibition on Computer Graphics and Interactive Techniques) and the 4th Augmented Human International Conference. CJ



Decline is occurring even as the evidence base for cognitive behavioural therapy and other forms of talking therapy has grown

issue were invited to 'think outside the box' and to 'propose novel solutions' to the challenges that lie ahead for evidence-based psychotherapy. Among the responses, a group led by Scott O. Lilienfeld at Emory University outlined six key reasons why many clinical psychologists remain resistant to

evidence-based practice, including: naive realism (a preference for clinical intuition over systematic research findings) and belief in myths about human nature (e.g. believing in the causal primacy of early experiences). They make several recommendations for psychology education and training practices on the back of these observations, including directly challenging the aforementioned myths in student training.

Other contributions include Jerome Wakefield at New York University on the dropping of the bereavement exclusion criteria for major depression, and a team led by Steven Hayes at the University of Nevada with plans for an alternative way to develop new psychotherapy treatment approaches. **CJ**

I The special issue is at:

[sciencedirect.com/science/journal/02727358/33/7](https://www.sciencedirect.com/science/journal/02727358/33/7)

Playing to learn

A school with a difference opened its doors in Denmark in August. A partnership between the LEGO Foundation and Billund Municipality, it is the latest step in an ongoing project to make Billund a 'Capital of Children', 'a unique center for children's play and learning'. The International School of Billund, initially for three- to seven-year-olds, will combine the international baccalaureate with the Danish school system and the toy manufacturer's creative philosophy of learning.

LEGO have for many years sought to ensure that their products are informed by academic research in psychology and related disciplines, and that such evidence has the policy impact it deserves (see tinyurl.com/legopsych). We spoke to Bo Stjerne Thomsen, who directs research for the LEGO Foundation. 'The best way

of learning is to be playful and make things', he said. 'We're engaged in a big, global efforts to cultivate and raise awareness of this, and to work with the growing academic network and an expanding agenda on the value of play.'

Thomsen says a key question is 'What does "best" mean in terms of what we do for children?' He feels the answer lies in the way we are with children when we are around them. 'Children are not unfinished, they're so powerful,' he says. 'Psychologists are people who understand this, that we need to be engaged with them, and to relax! Policy makers are stressed by the constant push for standardised assessment... how can we create confidence, in teachers and parents, that we can reach educational goals through playful learning?'

One prospective parent told *The Guardian*: 'In the

UK you're taught how to pass exams. In Scandinavia you're taught how to think.' Thomsen backs this approach, saying: 'There are so many different ways to build competence to learn – to support the core skills of being curious, keeping attention and self-regulating behaviour.'

Does the LEGO Foundation have a message for our readers? 'There's a lot of isolated work going on,' Thomsen replied, 'and academics often don't have the time, interest or capacity to communicate their work to others. If you can explain why play is exciting, we need to work together for impact.'

LEGO have also launched *Cultures of Creativity*, a report co-authored by Thomsen that explores the role of play and creativity in the development of societies across cultures (see tinyurl.com/legococ). **JS**

Bias in expert testimony

When forensic psychologists or psychiatrists provide expert testimony in court they're supposed to be objective, but a new study shows that their judgement tends to be biased towards the side that recruited them – the prosecution or defence (*Psychological Science*: tinyurl.com/p74cgdb).

Daniel Murrie at the University of Virginia and his colleagues recruited just over a hundred forensic experts (most were psychologists) to take part in what they were told was a contract to review sex-offender cases for either a public defender service or a specialised prosecution service.

Following the cover story, the participants completed a two-day training workshop on use of two established risk instruments – Hare's Psychopathy Checklist (PCL-R) and the Static-99R that's used to predict sexual recidivism. Three weeks later the participants met with either a defence or prosecution attorney (played by the same actor) and used these tools to review objectively four real-life sex-offender case files.

Normally, inter-rater agreement for the PCL-R and Static-99R is very high, but in this context the participants' ratings were significantly different depending on whether they thought they were acting for the prosecution or the defence. The finding raises concerns, Murrie and his team said, because it shows that 'some experts who score ostensibly objective assessment instruments assign scores that are biased toward the side that retained them'.

In fact, the researchers believe such biasing effects are likely to be larger in real life. The study involved just 15 minutes spent with the retaining lawyer, yet in real cases this contact could last weeks or months. Moreover, the current research required that the participants review the exact same files and interview transcripts whereas in real-life cases there could be the potential for seeking different sources or interviewing offenders in different ways. The researchers also noted the scope for bias could be greater for more subjective judgements, such as when assessing emotional harm. **CJ**

Healthy behaviour and well-being

Public Health England (PHE) – an executive agency of the Department of Health established earlier this year – has published a briefing paper claiming that young children's sedentary life styles, including too much time watching TV and playing video games, is having an adverse effect on their social and emotional well-being (pdf at tinyurl.com/nk8hpm5). The claims will doubtless be welcomed by those experts who have attracted controversy for campaigning about the dangers of modern technology for children.

The PHE document, aimed at parents and the providers of children's services, uses the research literature to make specific claims about the negative outcomes associated with young children spending too much time watching TV, playing video games or using social networking sites. According to the briefing, these adverse outcomes include increased risk of attentional problems, reduced feelings of social acceptance, more loneliness and conduct problems, lower self-worth and self-esteem, and increased anxiety and depression.

The briefing 'How healthy behaviour supports children's wellbeing' also includes information from UNICEF and the WHO that shows the UK is only middle-ranking among OECD and EU countries in terms of our children's life satisfaction (with over 85 per cent rating their life satisfaction highly), and actually below average among OECD countries in terms of children's beliefs about their own health (with 96 per cent rating it as good or very good).

The PHE publication coincides with the release of new research based on the Millennium Cohort Study that's tracking the health of thousands of UK children born between 2000 and 2002. Lucy Griffiths at UCL and her colleagues looked at activity data (derived from accelerometers) for over 6000 of the children when they were aged seven. The results show that fewer than half of the children were engaging in recommended levels of physical activity – that is, at least an hour of moderate to vigorous activity each day (*BMJ Open*: tinyurl.com/offowax).

Although the PHE briefing document includes caveats about the correlational nature of the data linking screen time with adverse outcomes, it neglects to mention research showing the cognitive

and other benefits of some forms of screen entertainment and social networking activities. And in a government press release, PHE summarises the situation without equivocation, claiming that 'Too much time in front of screens – including TV

things we can all do every day with our children to help improve their health and well-being.'

We asked BPS member Pete Etchells at Bath Spa University what he thought of the PHE briefing. He said it was strange that there was no mention of recent



Fewer than half of the children surveyed were engaging in at least half an hour of moderate to vigorous activity each day

and computer games – combined with a sedentary lifestyle is taking its toll on our children's wellbeing and increasing their anxiety.' Predictable headlines have followed, such as 'Video Games and TV "Make Children Depressed"' from Sky News.

The PHE briefing also cites evidence showing the positive effects of physical activity for children's emotional development. The agency's claims about screen time and exercise are being used to support its Change4Life campaign which is encouraging families to capitalise on the back-to-school period to establish new healthy lifestyle habits, such as swapping car journeys for walking and setting limits on children's non-work screen time.

Professor Kevin Fenton, PHE's Director of Health and Wellbeing said: 'There are many complex factors that affect a child's well-being, such as the wider environment they live in and their social, financial and family circumstances, but there are also some very simple

research (also based on the Millennium Cohort Study) showing a more complicated relationship between screen time and child development outcomes – most associations disappeared when other factors like socioeconomic status were taken into account. Also the results varied between TV viewing and video-game playing (*Archives of Disease in Childhood*: tinyurl.com/phyg8h4).

'Screen time is a pretty useless construct,' Dr Etchells said. 'We find different effects depending on the type of screen-based technology that's being used – video games vs. TV for instance. But even there, it's not so simple – the types of video games, or the content of the television programmes are surely of more interest. I think what this PHE briefing does highlight is how little we still know about the behavioural effects of modern technology. We really need to start taking a more mature, nuanced approach to the issue before issuing guidelines.' CJ

I Pete Etchells' *Guardian* blog post on the PHE briefing: tinyurl.com/qap89o2

Admitting mistakes

Barbara Fredrickson, one of the world's leading positive psychologists, has admitted that a highly influential paper she co-authored in 2005 is fundamentally flawed. Published in *American Psychologist*, the paper purported to show that flourishing mental health is linked to people experiencing a specific ratio of positive to negative emotions of over 2.9 (tinyurl.com/pvdhomk).

The ratio was consistent with Fredrickson's 'broaden and build theory' – the idea that positive emotions encourage attitudes and behaviours that help build emotional resilience. It also appears on the cover of Fredrickson's critically acclaimed 2009 book *Positivity: Top Notch Research Reveals the 3 to 1 Ratio That Will Change Your Life*.

However, in a paper published this summer, also in *American Psychologist*, Nicholas Brown and his colleagues

documented 'numerous fundamental conceptual and mathematical errors' in the nonlinear dynamic modelling used by Fredrickson and her co-author Marcial Losada (tinyurl.com/q84nnoc).

Fredrickson published a response in the same journal issue accepting the errors. And in a letter written to the *Chronicle of Higher Education* in August she says that she and Losada have submitted a formal correction notice to the 2005 paper. She also plans to amend future editions of her book.

But Fredrickson adds: 'Other elements of the original [2005] article remain valid and unaffected by this change, most notably the empirical finding – replicated across two independent samples – that positivity ratios were significantly higher for individuals identified as flourishing relative to those identified as nonflourishing.' **CJ**

Police 'super-recognisers'

The Metropolitan Police claimed in August that it had deployed 17 police 'super-recognisers' to help spot known offenders at this year's Notting Hill Carnival. 'The highly skilled officers can recall the faces, names, birth dates and other details of

offenders, years after seeing them either in person or on file,' the Met said in a press release. The concept of super-recognisers was only recently developed in psychology and came about through work on prosopagnosia – a specific

difficulty in recognising faces. Research suggests that super-recognisers substantially outperform most people on a variety of tests including identifying faces in poor light or from unusual angles (see p.726 for more on super-recognisers). **CJ**

TWEET TROUBLE

A prominent US evolutionary psychologist has been censured formally by his host institution after an investigation into a tweet he sent earlier this year. In June Professor Geoffrey Miller suggested on the social media site that obese PhD applicants are unlikely to have the willpower to succeed at their research. He later claimed the tweet was part of a research project, but the University of New Mexico found this to be untrue.

NUDGE US

The Obama administration is reportedly following British Prime Minister David Cameron's lead and setting up its own Behavioural Insights Team or 'Nudge Unit' that will use lessons from psychology to inform public policy. Members of the UK Nudge Unit met recently with the head of the US team, Maya Shankar, 'to discuss how we will exchange ideas and share research'. Shankar is a former Rhodes Scholar in psychology.

PROBLEM GAMBLING AWARD

Dr Mark Griffiths, Professor of Gambling Studies at Nottingham Trent University, has become the first-ever recipient of a lifetime research award given by the US National Council on Problem Gambling (NCPG). The award is given for exceptional long-standing research that assists problem gamblers and their families. Keith Whyte, the executive director of the NCPG, said: 'His work has resulted in a much greater understanding of problem gambling among academicians, therapists, policy makers, and the general public.'

PREDICTING SUICIDE

Researchers in the USA have discovered six genetic biomarkers for suicide in the blood of patients diagnosed with bipolar disorder and schizophrenia (*Molecular Psychiatry*: tinyurl.com/pljuzlz). Alexander Niculescu and his colleagues found that when combined with clinical measures of mood, one of these biomarkers (encoded by the gene SAT1) predicted future suicide-related hospitalisations with over 80 per cent accuracy.



The UK is the 'addiction capital of Europe' according to a new report *No Quick Fix* published by the Centre for Social Justice in September. The report claims that 40,000 addicts are 'stranded' on substitutes like methadone and that the government has failed to take the urgent action that's required to deal with the rising number of people taking 'New Psychoactive Substances' – also known as legal highs. **CJ**

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Moving forward on reversal theory

Gareth Lewis (University of Leicester) reports from the 16th International Reversal Theory Conference, in Reims

Reversal theory emerged in the early 1970s, created and developed by K.C.P. Smith and Michael Apter, in order to account for observations of psychological, emotional and motivational states reversals, in child and family clinics. Apter has said: 'The primary aim of reversal theory is to show that the various aspects of a wide range of types of experience and behaviour may be explained with reference to certain pairs of states and reversals which occur between them.' For example, you can eat being serious and pursuing a goal in eating, or being in a spirit of seeking pleasure in the moment. Reversal theory has long been known for being an unusually general theory of motivation, emotion and personality. As Etienne Mullet put it in his Ken Smith Memorial Lecture here: 'As reversal theory has deliberately been conceived as a theory of daily life, it is proving to be a convenient tool for intrepid researchers wishing to make a foray into untouched areas of human behaviour.'

This wide scope led to a stunningly eclectic mix of papers presented and interests discussed. New insights and ideas were presented on some perennial research contexts associated with the theory, such as sport (John Kerr, Joanne Hudson), therapy (Nathalie Duriez, Jonathan Wright), education (Kathryn Lafreniere, Ken Cramer, Gareth Lewis), leadership (Christophe Lunacek), smoking cessation (Brian Colwell) and other health issues.

Reversal theory has a lot to say about the experience of rebelliousness, negative emotions and other problematic aspects of human experience, and new aspects of these themes were presented at the conference. For instance, Mark McDermott presented a study demonstrating the association of rebelliousness and attachment difficulties as a result of parental neglect. Mitzi Desselles presented evidence of the enjoyment of negative emotions using the reversal theory construct of parapathic emotions (negative emotions experienced pleasantly when in the playful state).

Etienne Mullet and his research

students in Europe and West Africa presented a series of studies that looked at the complex motivational structures involved in socially and personally important choices. The studies all involved motives to perform or not perform health-related behaviours such as surgical amputation, organ or blood donation, bleaching skin, etc. The studies used a classical methodological approach involving the qualitative development of an inventory of motivational items, followed by collection of quantitative data, together with exploratory and confirmatory factor analyses. Mullet presented a synthesis of 10 studies that confirmed reversal theory's capacity to fully account for these phenomena, in contrast to traditional two- and three-factor models of motivation.

It was also refreshing to hear a number of exciting new applications of the theory in the commercial world. Design groups in the Universities of Delft and Twente in the Netherlands are using the theory to develop an approach to the design of products and services, such as the cabin experience in an aircraft, through the hospital experience for young people, to designing the environmental ambience of a train station. Another presentation (Leo Watkins) described how a global sports shoe company was using the theory to research perception of its brand image.

There was also the opportunity to sample the champagne, to make new friends, and to catch up with some of the stalwarts of the reversal theory community, including Richard Mallows (now President of the BPS, who gave a keynote speech) and Michael Apter and Mitzi Desselles, who described how their team at LATech are expanding the empirical foundations of the theory through further research into basic concepts such as parapathic emotions, and the development of a definitive motivational state measure.

We thank Fabien Legrand and his team for being generous hosts, and look forward to meeting in Canada in 2015.

I For more on the sessions and the theory, see reversaltheory.net/org

FUNDING NEWS

The ESRC and National Institute on Aging (USA) have a joint call for two-year research projects to explore the **potential for mid-life plasticity of biobehavioural or psychological systems affected by early life disadvantage**. To be eligible for ESRC co-funding application must include a social science UK component, including one or more UK Investigators. Closing dates: letters of intent 3 January 2014; applications 4 February 2014. tinyurl.com/oedcgre

The following commissioning briefs for primary research are open under the NIHR Public Health Research Programme:

- I Interventions to **promote social and emotional well-being among children aged under two years**. The NIHR has a particular interest in interventions that investigate the most effective ways that fathers, grandparents and others who informally care for children, can promote social and emotional well-being.
- I **Interventions to prevent elder abuse**, including raising awareness of elder abuse, education to promote the care of older people and reduce stereotypes of older people, interventions for carers, and identification of abuse.
- I **Interventions to maintain or increase physical activity in adolescents**. Proposals should consider any possible adverse or unintended consequences or such research.

Closing date for all calls: 18 December 2013. tinyurl.com/nkpgdda

Psychology Beyond Borders is an international non-profit organisation committed to international leadership in psychosocial responses in the face of disasters, armed conflict and terrorism. Via their Mission Awards they support research and service projects investigating:

- I **Repetitive exposure to disaster**: effects and specific interventions for such populations
- I **Preparedness**: teaching and evaluation of programmes preparing people for disasters
- I **Resilience**: assessing and building the resilience of populations
- I **Prevention**: peace building and non-violent conflict resolution and prevention.

Funding of between \$5000 and \$10,000 is available for projects, lasting up to a year. Closing date: 8 November 2013.

tinyurl.com/q7kssdu

info

For more, see www.bps.org.uk/funds
Funding bodies should e-mail news to Elizabeth Beech on elibeef@bps.org.uk for possible inclusion

The super-recogniser

I have always known that I have the 'never-forgetting-a-face thing', but never for a second, thought it had a name, or that when I took one of the recognition tests, I would score the highest ever recorded. It was then that



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I thought, I really want, if possible, to do something with this thing that I had sometimes thought of as an affliction.

I probably every week see or meet, and instantly and effortlessly identify, people I know I have met a long time ago in a situation of which they have no recollection. I also then often freak them out with this. I've had to learn to keep my recognitions to myself at times or risk coming across as odd.

I will usually remember instantly where I have seen people. Sometimes, it may take a little longer, but I will always get there.

I worked in retail for many years and knew throughout that my ability to remember faces could certainly benefit me in my work. Customers greatly appreciated being recognised and I built up a rapport with many customers who would be served only by me. I not only knew the face of each person, but would recall what they had purchased and many other details about them.

In one place of work, a robbery had taken place and the detectives involved in the case showed me a book of maybe 200 photos of possible suspects. I recognised the two people concerned immediately and they were arrested.

I am now a couple counsellor and so far, in my client work, have not come across anyone whom I have met previously. I am sure at some point this will happen. Having said that, I was recently introduced to a colleague's partner, whom I instantly recognised: I had served him around 2002. I recounted this to him and what he had been looking at in the shop I was then working in, and this did astound him. Does super-recognition help me in my current field? I am not sure. Maybe I just haven't recognised it yet...

If anyone reading this has any thoughts on how, or where I might apply this skill, please do let me know. Now I know I have a very specific talent, I am eager to put it to good use.

Dr Ashok Jansari, Reader in Psychology at the University of Westminster, comments (see also p.726): 'I have been fascinated by face recognition ever since hearing of prosopagnosia or face blindness as an undergrad, and I was intrigued when I heard that research had begun on people at the other end of the spectrum. I set up an MSc project to look for super-recognisers in 2010 and have been exploring the phenomenon ever since. I ran a large study at London's Science Museum to look at the British public's face recognition and last year, I helped in a Channel 4 programme called *Hidden Talents*. Through these events, I have recruited super-recognisers including Moira; I am conducting research to see what makes their face recognition so good. The findings will inform theoretical models of face recognition, help refine software and maybe even one day be used to help those with prosopagnosia. If you know anyone who thinks they are a super-recogniser or a prosopagnosic, I would like to hear from them: see www.uel.ac.uk/psychology/research/face-recognition.'



The super ager

Ms Custis Wright, Austin, Texas

I am 88 years old, and lucky to be able to test and qualify as a 'SuperAger'.

My life has been a very fortunate one, in comfortable circumstances; my health has been good and any difficulties have been taken care of. I graduated from Vassar and leaving Baltimore where I grew up, I moved with my first husband to Minneapolis. In the 1950s I married again and moved to Texas, ending up with a blended family. After running around after five children (though with help), at age 50 I decided to be more physically active. I had walked during golf, before carts, but nothing else. Thus, I decided to take up jogging for two miles, very slowly. I continued for 25 years, after which I was forced by hip tendonitis to slow to a fast walk. Meanwhile, remaining an active golfer, I also worked on a Nordic Track, and then an elliptical trainer. These exercises have continued to this day.

I felt I was fairly intelligent but always had to contend with my husband's 180 IQ. I do find that I read more, and more widely, than most people. It was fun to take the tests at Northwestern Medical School, but I am still considering going to a memory clinic. Both of my siblings died young, but I am confident that my mother, who died at 88, would have been considered a SuperAger. Unfortunately, I was not around her sister or my father at the end (both died at 83 years old), but it is possible that they might have qualified as well.

Maintaining my good health has always been important and all my adult life I have strictly limited intake of fats and sugars, with occasional indulgences; I love red wine. I have celiac disease, so grains are difficult, but gluten-free options can be found. My life includes a number of small, unorganised groups, some members of which have views directly opposed to mine; in most of these I am definitely the oldest person. So with my family (including two daughters living nearby) and friends, I have wonderful social contacts.

Harrison, T.M., Weintraub, S., Mesulam, M.M. & Rogalski, E. (2012). Superior memory and higher cortical volumes in unusually successful cognitive aging. *Journal of the International Neuropsychological Society*, 18, 1081-1085.
Rogalski, E., Gefen, T., Shi, J. et al. (2013). Youthful memory capacity in old brains: Anatomic and genetic clues from the Northwestern SuperAging Project. *Journal of Cognitive Neuroscience*, 25, 29-36.



The bitter reality of 'supertasting'

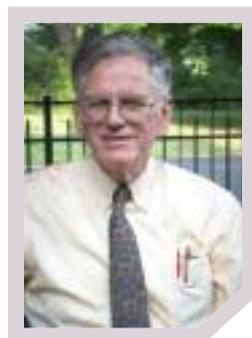
Professor Charles Spence, University of Oxford

Roughly a quarter of the population are more sensitive than the rest to tastes, especially to the bitter taste in foods such as Brussels sprouts, endive salad, and coffee. Not everyone who you might imagine being a 'supertaster', is. Jeffrey Steingarten, the famous North American food critic, turned out to be a non-taster when I gave him a tasting strip.

Some supertasters may have as many as 16 times more papillae on their tongues than some other non-tasters. All those extra taste buds also give the supertaster an enhanced ability to experience the oral-somatosensory texture of foods as well. What is more, work from the Crossmodal Research Laboratory here in Oxford, together with Unilever Research, has demonstrated that supertasters are less likely than non-tasters to be misled when a food is coloured inappropriately. These findings make sense, but the latest observation that has got the

scientists really scratching their heads is why supertasters also appear to have enhanced olfactory abilities (this work from Gary Pickering and his group in Canada).

While supertasters may have an enhanced ability to detect certain food-related stimuli it's not so obvious that we would really all *want* to be a supertaster. In my family it turns out that my father, who would force the rest of the family to finish the vegetables on the plate – including those Brussels sprouts – lives in a different taste world than the rest of us, who all hated the taste of this most bitter vegetable. When I gave my family the tasting strips recently, it turned out that my father was a non-taster while the rest of the family were tasters. Interestingly, because taster status tends to run in families, researchers back in the 1930s even considered using a person's response to one of the tasting strips as a cheap paternity test.



On being 'super humane'

Professor Sam McFarland, Western Kentucky University

Gandhi once said, 'All humanity is one undivided and indivisible family.' Studies of those who risked their lives to rescue Jews during the Holocaust found they shared Gandhi's deep sense of the 'oneness with all humanity'. That oneness transcended their sense of oneness with members of one's nationality, race or religion.

For reasons my self-examination does not reveal, I have agreed with Gandhi's sentiment, both intellectually and emotionally, since late childhood. Reared in luxury, I am certainly not a Gandhi, and can only guess whether I would have had the courage of the rescuers.

Still, I think my life has shown this 'oneness with all humanity'. At age 14, my parents sent me to a military school, where I quickly declared myself a conscientious objector. I somehow knew it morally wrong to let your nation decide for you if and when it is right to kill fellow human beings. I was hazed for that unpopular view, but also gained the respect of more thoughtful faculty and students. Although living in the South, I was a firm supporter of desegregation in the 50s and a frequent civil rights marcher and anti-war activist in the 60s. In all of these, my sense of our common humanity anchored my decisions and actions.

Today my causes are humanitarian and human rights. I have long supported Amnesty International, and give lots of money to Oxfam, Human Rights Watch and similar organisations. These organisations are the main recipients in my will. Also, I now co-chair the Education Committee for Human Rights Coalition of the American Association for the Advancement of Science.

As a professor, I developed a course on human rights, which I still teach in retirement, and am now writing a textbook on human rights. My research has focused on understanding racism and war, and their opposite, 'identification with all humanity', which I wrote a questionnaire to measure. Two questions read, 'How often do you use the word "we" to refer to people all over the world?', and 'When they are in need, how much do you want to help people all over the world?' If asked these questions, my answers would be 'very often' to the first and 'very much' to the second, the highest response options.

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McFarland, S., Webb, M. & Brown, D. (2012). All humanity is my ingroup: A measure and studies of identification with all humanity. *Journal of Personality and Social Psychology*, 103, 830-853.



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