

# Fraud or scientific mistake?

Social psychology is reeling from its second research scandal in less than a year, after the Erasmus University of Rotterdam announced the withdrawal of two articles by one of its senior social psychologists. The problematic papers were identified by a 'Committee for Inquiry into Scientific Integrity' (chaired by Rolf Zwaan, a psychologist in the University's Brain and Cognition lab), which was set up to investigate concerns raised about the work of Dirk Smeesters. Among the Inquiry's recommendations was a call for greater regulation of the fields of marketing and 'to a lesser extent' social psychology.

Smeesters, who was Professor of Consumer and Society in the Rotterdam School of Management, was found guilty by the Inquiry of 'data selection' and failing to keep suitable data records. Smeesters resigned his post after

admitting to using a 'blue dot technique' whereby, after achieving a null result, he omitted participants who failed to read the instructions properly (7 to 10 per study, he claims), thus lifting the findings into statistical significance – a procedure he failed to detail in his affected papers. However, Smeesters blamed the unavailability of his raw data on nothing more heinous than a computer crash and a lab move. The Inquiry said it 'doubted the credibility' of these reasons.

The affected papers pertained to social priming and past selves and were published in the *Journal of Personality and Social Psychology* ([tinyurl.com/bq32j9r](http://tinyurl.com/bq32j9r)), published by the APA, and the *Journal of Experimental Social Psychology* ([tinyurl.com/c2nmxlh](http://tinyurl.com/c2nmxlh)), published by Elsevier. A third affected paper had only reached the submission

stage of publication. The Inquiry found no evidence of wrong-doing by Smeesters' co-authors, although there's no doubt they are suffering from the fallout (at least one of them has posted his feelings online: [tinyurl.com/d53hndk](http://tinyurl.com/d53hndk)).

These latest revelations come in the wake of the case of Diederik Stapel, a senior social psychologist at Tilburg University, who last year admitted to fabricating the results behind several dozen published studies (see News, December 2011). Smeesters has kept a low profile since the scandal broke,

## Survey

## QUEEN'S BIRTHDAY HONOURS FOR PSYCHOLOGISTS

Developmental psychologist and Society Fellow Professor Uta Frith of UCL and Aarhus University has been made an honorary Dame in the latest Foreign and Commonwealth Honours, for services to clinical science (the award is honorary because of Professor Frith's German nationality).

Also recognised in the Queen's Birthday Honours were Chartered Psychologist Anne Douglas, a Consultant Clinical Psychologist and Head of Trauma Services for NHS Greater Glasgow and Clyde, appointed OBE for services to the Health of Asylum Seekers and Refugees; Chartered Psychologist Melinda Edwards, a Consultant Clinical Paediatric Psychologist at St Thomas' Hospital, appointed MBE for services to children with chronic and life-threatening medical conditions; and Anne Moore, Chief Educational Psychologist at the London Borough of Croydon, who was appointed MBE for services to Special Needs Education.

Uta Frith is an internationally respected authority on autism and dyslexia, among other topics,

and during her career she has mentored a small army of eminent researchers, including Professor Simon Baron-Cohen (Director of the Autism Research Centre at the University of Cambridge), Professor Francesca Happé (the newly appointed Director of the MRC Social, Genetic and Developmental Psychiatry Centre at the Institute of Psychiatry, KCL), and Professor Sarah-Jayne Blakemore (Leader of the Developmental Cognitive Neuroscience Group at the Institute of Cognitive Neuroscience, UCL), among many others.

In comments to the Society, Professor Frith paid tribute to her husband, the psychologist and BPS Fellow Chris Frith: 'I often talk about how culture changes the brain,' she said, 'but I should really say that it is significant others who change the brain. In my case the significant other did so with such a delicacy and sensitivity that I never cease to be grateful, and never cease to wonder at my good fortune.'

Anne Douglas told us she was 'delighted' with her honour, which 'recognises the excellent

work of the Compass team' she heads in Glasgow. She added that all applied psychologists should be encouraged to take trauma histories from all clients as a matter of routine, and include it in their formulation and therapy plan. Together with Honorary Society Fellow Professor Bill Yule, Douglas is keen to establish a BPS Trauma Psychology section. 'We need 1 per cent of the membership to get this off the ground,' she said, 'so if you are interested please vote at: [www.bps.org.uk/traumasec](http://www.bps.org.uk/traumasec)'.

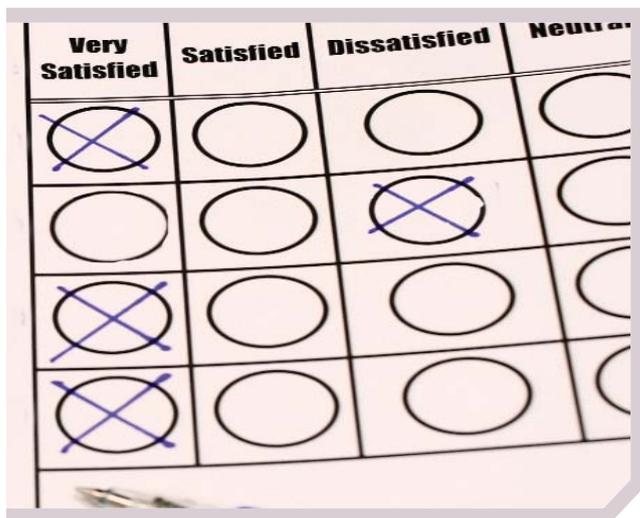
'Delighted and extraordinarily humbled' was how Melinda Edwards told us she felt on hearing of her award, especially after she learned she'd been nominated by the parents of young children she's worked with. 'These young people are members of "Evelina's Pride", a supported youth group for young people with chronic and life-limiting medical conditions,' Edwards said. The group was developed by Edwards nearly 15 years ago and aims to provide a 'supportive peer network for young people, enabling fun and friendship through a range of

inclusive social activities'.

'I feel very privileged that our psychological skills give us the ability to assess in a more holistic way the needs of our patients and to provide appropriate help creatively in the most accessible way to support their development, adjustment and quality of life,' Edwards added. 'I feel even more privileged to have been a member of the Evelina Pride Group and to have been part of the lives of such inspirational young people.'

Anne Moore, who has worked for the London Borough of Croydon for 25 years, told us she feels 'privileged' to have worked with so many dedicated individuals during that time, and fortunate to have been part of a 'very special team' of educational psychologists, and to work for a council that has shown 'tremendous support' for special educational needs. 'I am overwhelmed by this honour,' she said, 'but thrilled to have the opportunity to promote educational psychology to a wider audience.'

We extend congratulations to them all. CJ



of *Consumer Research* ([tinyurl.com/crs8ehn](http://tinyurl.com/crs8ehn)). In relation to this paper, the Inquiry stated that it had found a file on Smeesters' network desk that shouldn't have been there based on his description of how the data were collected. The Inquiry states it 'cannot rule out that Smeesters used the...file to manipulate the raw data before sending these' to his data-analyst.

This isn't the first time the whistleblower

Simonsohn has taken an interest in research integrity. Last year he co-authored a paper 'False-positive psychology' in *Psychological Science* ([tinyurl.com/canb33z](http://tinyurl.com/canb33z); see News, January 2012), in which he and his colleagues demonstrated the ease with which false-positive results can be obtained by indulging in research practices that occupy a grey area of acceptability, such as adding more participants to a subject pool in search of a significant finding. A paper published in May this year in *Psychological Science* (but detailed on our Research Digest blog last December: [tinyurl.com/boynfxk](http://tinyurl.com/boynfxk)) surveyed 6000 US psychologists about practices in this 'grey zone' and found that 58 per cent admitted excluding data post-hoc and 35 per cent had doubts about the integrity of their own research. Smeesters told the Inquiry that he doesn't feel guilty because many authors in his field knowingly omit data to achieve significance.

Early in July, Simonsohn gave an interview to *Nature* (see [tinyurl.com/7mtgawa](http://tinyurl.com/7mtgawa)) in which he claimed to have identified a third case of scientific misconduct that's yet to be made official, and a fourth that's not been acted upon. He said he was motivated to act in these cases by the fact that 'it is wrong to look the other way', but he stressed he hadn't taken justice into his own hands – he was careful to pass things over to the appropriate authorities. 'If it becomes clear that fabrication is not an unusual event,' he said, 'it will be easier for journals to require authors to publish all their raw data. It's extremely hard for fabrication to go undetected if people can look at your data.' CJ

but he surfaced late in June to tell the Dutch newspaper *Algemeen Dagblad* that he was 'no Stapel' – his data was not fabricated; he had made a scientific mistake. Stapel and Smeesters reportedly never worked together.

Concerns were first raised about Smeesters' work by Uri Simonsohn, a social psychologist at The Wharton School, University of Pennsylvania. Simonsohn has developed a statistical technique for detecting massaged data, details of which are contained in an as yet unpublished paper with the working title 'Finding fake data: Four true stories, some stats, and a call for journals to post all data' (criticisms of the technique have surfaced online: [tinyurl.com/ccnymz6](http://tinyurl.com/ccnymz6)). Simonsohn contacted Smeesters requesting his raw data, and then he reported his findings to Smeesters' head of school, which led ultimately to the Inquiry.

According to the Inquiry's report (full English translation in pdf form at [tinyurl.com/csjpgxfr](http://tinyurl.com/csjpgxfr)), Simonsohn's technique identifies dubious data by looking at the amount of variation in the group means derived from the same population. With the aid of two statistical experts, the Erasmus University Inquiry applied Simonsohn's algorithm to 22 of 29 papers published or submitted by Smeesters since 2007, for which the necessary data were available, which led to the identification of the three suspect papers (the technique was also applied to a random selection of four comparable control papers by others in the field and no anomalies were found).

Concerns were also raised about data anomalies in a fourth paper published by Smeesters and co-authors in the *Journal*

## NO EXTRA BENEFIT

Findings from a new randomised controlled trial suggest that adding facilitated exercise to standard care (including antidepressant medication) doesn't bring any extra benefit to people with depression. 'The main implication of our results is that advice and encouragement to increase physical activity is not an effective strategy for reducing symptoms of depression,' the researchers said (*British Medical Journal*: [tinyurl.com/brcey3a](http://tinyurl.com/brcey3a)).

## PSYCHOLOGISTS APP

A team of psychologists, led by Professor Robin Walker in the psychology department at Royal Holloway University of London, is working on an iPad app called 'MDReader', which it's hoped will help people with macular degeneration, an eye condition that affects central vision. The app scrolls text in large font across the screen at a chosen speed, so that a reader can use peripheral vision whilst holding their gaze steady.

## WELLCOME IMAGE

A close-up photograph, taken during neurosurgery, of the surface of a living human brain is the overall winner of this year's Wellcome Image Awards (see [www.wellcomeimageawards.org](http://www.wellcomeimageawards.org)), judged on technical merit as well as aesthetics. Alice Roberts of the judging panel said 'Through the skill of the photographer [Robert Ludlow of UCL], we have the privilege of seeing something that is normally hidden away inside our skulls.'

## PAIN GUIDELINES

With support and input from the British Psychological Society, the Royal College of Physicians has published new guidelines ([tinyurl.com/cgl5jvm](http://tinyurl.com/cgl5jvm)) for health professionals on complex regional pain syndrome – 'a debilitating, painful condition in a limb associated with sensory, motor, autonomic, skin and bone abnormalities'. Chartered Health Psychologist Dr Helen Poole at Liverpool John Moores University was on the development panel.

## LABIAPLASTY ANIMATION

BPS Fellow, Chartered Psychologist Lih-Mei Liao, a consultant at the UCLH Women's Health Division is part of a team behind a new animated documentary about labiaplasty – surgery to alter the appearance of female genitals. Drawn and directed by Ellie Land, the film was launched at the Wellcome Trust in July: [www.thecentrefoldproject.org](http://www.thecentrefoldproject.org)

# Feeling in the brain

Christian Jarrett reports from a conference of the Association for the Scientific Study of Consciousness

What can neuroimaging tell us about human emotions that we don't know already? The technology has come in for a lot of stick lately, with doubts raised about the field's statistical methods and critics calling it the new phrenology. These doubters should have come to Tania Singer's (Max Planck Institute for Human Cognitive and Brain Sciences in Germany) enthralling keynote lecture, on viewing emotions through the lens of social neuroscience.

Speaking at the Association for the Scientific Study of Consciousness, held in Brighton in July, Singer began by outlining a series of studies that looked at social factors affecting the way the brain responds to the sight of another person's pain. For instance, using an economic game, Singer and her colleagues have

shown that men, much more so than women, show a reduced pattern of empathy-related brain activity when they see pain inflicted on an opponent whom they judge to have played unfairly.

Group membership can also affect the brain's empathic response. A study with fans of the football teams FC Zürich and FC Basel found that participants' brains showed more empathy-related brain activity (in the insular cortex) to the sight of a member of their own football team being in pain, and in turn this was associated with a greater likelihood that they would agree to help that person by 'sharing' their pain. Singer has even uncovered the neural correlates of *schadenfreude*, finding evidence that reward-related activity in the nucleus accumbens is enhanced when a rival team

player, or an unfair opponent in an economic game, is seen to be in pain.

Other studies have pinpointed a brain region that's involved when we attempt to overcome what Singer calls our 'egocentric bias'. These ingenious experiments involved contrasting the way a participant's brain responded to the sight of another person being touched in an unpleasant way (for example, by a slimy slug), compared with when he or she (the participant) was touched simultaneously in a pleasant way by something fluffy. The latter scenario requires that the participant override their own tactile experience in order to empathise with the tactile experience of another. Overcoming egocentric bias in this way was associated with increased activity specifically in the right supramarginal gyrus (located on the

## PSYCHOLOGY VS. LITERATURE

Karen Goodall (Queen Margaret University, Edinburgh) listened to the debate

'Who understands the human mind better: Psychologists or crime writers? This was the theme of a free public event organised by the Society's Scottish branch, which took place on 21 June 2012 at the Royal College of Surgeons in Edinburgh.

Despite the summer downpour the venue was full, a testament to the popularity of the speakers: best-selling novelist Ian Rankin and psychologist Professor Richard Wiseman. Rankin, arguably Scotland's best crime writer, is author of 33 titles, including the hugely popular Inspector Rebus series. He recently received the OBE for services to literature. Wiseman researches the psychology of luck, self-help, persuasion and illusion, and is the most followed UK psychologist on Twitter. His bestselling books have been translated into over 30 languages and he was named one of the top 100 people who make Britain a better place to live.

Prior to the event, Dr Elizabeth Hannah, a Chartered Psychologist and Honorary Secretary of the Branch, commented: 'Ian's Rebus novels provide real insight into the human mind, so it will be interesting to see who the audience feels has the better understanding. As a psychologist, I have high hopes for Richard!'

The evening started on a lighthearted note, with Rankin, who is currently finishing

his 18th Inspector Rebus novel, admitting that he might have finished his final draft, had he not committed to the event. For the audience, it was a worthwhile sacrifice as the unscripted conversation between Rankin and Wiseman provided a unique insight into the overlap between psychological understandings of the human mind and the writer's craft.

Topics that were explored included the function of novels in imposing order on an often chaotic and unfathomable world, for both writer and reader. Rankin illustrated this by recounting the feelings of helplessness and incomprehension he experienced when his younger son was diagnosed with a rare genetic disorder. He noted that writing alleviated his distress and allowed him to 'play God'. He was told that his son would never walk; Rebus' daughter was then subjected to an accident which left her in a wheelchair, although she later regained use of her legs as Rankin admitted that he 'felt a bit mean'!

Literature, as a way of 'trying on other guises' was explored. Rankin admitted to enjoying 'acting as Rebus', as the physical and confrontational character of Rebus is the antithesis of his own personality. Wiseman pondered whether literature is a way of

enabling readers to explore darker aspects of their personality in safety, which led to a discussion of the complexity of evil. Rankin recounted his conversations with

prisoners on death row in America whilst researching his television series *Ian Rankin's Evil Thoughts*. He noted the relative ease with which we can feel an empathic response towards an individual during face-to-face interaction, whilst the 'cognitive part of the brain' simultaneously balks at the severity of the crimes they have committed.

Empathy as a bridge between minds was proposed as a key element in literature, for both the reader and novelist with Rankin discussing how characters come alive only when both the reader and writer feel empathy towards that character. After an enlightening 90 minutes the audience was left with a strong impression of the interface between psychology and literature. Who won the debate? The jury is still out as Rankin and Wiseman's skillful handling of the topic opened up further questions to be pondered as we filed back out into the rain. A rematch has been promised though, so watch this space!





parietal lobe), a finding that was confirmed by using transcranial magnetic stimulation to disrupt function in this area temporarily, the consequence of which was a five-fold increase in egocentricity.

Perhaps most fascinating of all were Singer's forays into ways that the brain's empathic response can be changed through training. For instance, when Singer scanned the brain of a monk looking at a person in pain, the pattern of neural activity he exhibited was unlike anything she'd ever seen, no doubt because he's spent 30 years devoted to compassion-based meditation. Rather than feeling 'as if' he were experiencing their pain, he 'felt for' them, including seeing them as a meaningful other, and this was associated with activity in a distinct array of brain regions including the ventral striatum, medial orbito-frontal cortex and mid insula. Supporting this, studies with ordinary participants have shown that a day's worth of empathy-based or compassion-based training leads to differences in the way the brain responds to another person's pain: the former being associated with enhanced activation of classic empathy-related networks; the latter with areas similar to those that were activated in the monk.

'The Zurich Prosocial Game' – a videogame designed by Singer and her colleagues – has shown that short-term compassion training has behavioural consequences too, in terms of increased helping behaviour. Next, Singer plans to look at the long-term consequences, on brain and behaviour, of a year-long compassion training programme of 20 minutes per day. She's also looking at the contrasting subjective experiences of empathy and compassion. Her volunteer monks say the main difference is warmth – that is, compassion feels warmer. Writing from the perspective of a rainy British July, perhaps if we all worked to be more compassionate, we could finally get this summer started!

### Playing with body ownership

The sense that our bodies belong to us seems so instinctive and immutable, but

psychologists using illusions are exposing this to be a fallacy. With toy-shop props and virtual-reality sets, participants have been led to believe they've had sensations in a rubber arm, shrunken bodies and even out-of-body experiences. In a gripping talk, Manos Tsakiris (Royal Holloway, University of London) described how he's extended this line of work, including conducting fascinating experiments looking at how sense of body ownership is weaker in some people (e.g. those with anorexia) than others.

A consistent finding in this research is that heart-rate sensitivity appears to be a useful proxy for strength of body ownership. Consider a task in which a participant looks at a strange face in a computer monitor, and whenever the participant is stroked on his or her face, the face on the monitor is stroked in synchrony, in exactly the same place, almost as if the participant is looking into a mirror, but it's a stranger's face looking back rather than their own. Tsakiris has morphed the face to look increasingly like the participant and asked him or her to indicate at which point the face in monitor feels like it is them. People who are poorer at detecting their own heart rate (i.e. they have low 'interoceptive awareness') tend to say that they feel ownership of the monitor face sooner.

Moreover, these studies have shown that the effect of congruent touching (of their own and the monitor face) has a much more powerful effect on people with low interoceptive awareness. In a particularly dramatic demonstration of this effect, Tsakiris and his colleagues made it so that the face in the monitor appeared to be sliced down the cheek with a blade of glass. People with poor heart-rate sensitivity showed greater skin-conductance response to this sight, providing further evidence that they find it easier to feel a sense of ownership over that face.

Intriguingly, Tsakiris' studies have also shown that interoceptive awareness can be manipulated. For example, a person who's usually poor at feeling their own heart beat, improves when they look at themselves in the mirror, or even if they simply look at words that are self-relevant. There are social effects too – children with low interoceptive awareness become more aware of their hearts when in the company of their parents.

Tsakiris is planning a range of exciting extensions to this work, including experiments to look at the effects of other relationships on interoceptive awareness, such as the presence of a partner, and also the part that attachment styles might play.

## FROM THE ASSC POSTERS

Prejudices can influence our raw perceptions. Ya'ir Pinto and his colleagues at the University of Amsterdam set up a binocular rivalry experiment in which a fading Mondrian pattern was presented to one eye and a racially black or white face, growing in visibility, was presented simultaneously to the other (rather than blending, this situation leads to the conscious perception of one or other of the images). Participants became consciously aware of black faces later than white faces. The finding was also replicated, with Moroccan faces reaching awareness later than Dutch faces.

What's it like to wear prism glasses that invert the visual scene from left to right? Jan Degenaar at the University of Antwerp has documented the subjective experience of adaptation, based on wearing the glasses for four hours per day for 31 days. It took him 57 hours to regain the ability to grasp objects and a full 123 hours for objects to appear to him to be located in their real locations. However, even after successful adaptation, his experience of the world still felt qualitatively different from normal vision.

Evidence on the emotional content of dreams is a mixed bag, in terms of the amount and valence of what's been found in different studies. According to Pilleriin Sikka and her colleagues at the University of Turku, this is because of methodological differences. Sikka's team compared dream diaries, self-rating of dream content and observer-ratings of dream content (based on a woken participant freely recalling a dream and a researcher coding the content). Dreams were found to be more emotional and more positive when self-rated compared with observer-rated, casting doubt on the convergent validity of subjective and objective measures.

Past research has pointed to synaesthesia – the mixing of sensory experiences – being associated with superior memory performance, but the precise forms of memory affected have not been clarified. Nicolas Rothen and his colleagues at the University of Sussex compared dozens of grapheme-colour synaesthetes (for whom letters reliably evoke certain colours) with normal controls and found that the synaesthetes showed superior performance on recognition memory and short-term memory (perhaps because of their richer sensory experiences), but not iconic memory.

## FUNDING NEWS

The **Society for the Study of Addictions** has a **travelling scholarship** scheme to allow younger members of the Society to undertake travel to an international meeting or laboratory to further their training. The next application deadline is 1 September; applicants must be active members of the SSA to apply.

! [www.addiction-ssa.org/scholar.htm](http://www.addiction-ssa.org/scholar.htm)

NIHR Public Health Research programme has commissioning briefs for:

! 12/3090 Interventions to **aid return to work after long-term sickness absence**

Funding for primary research to investigate which interventions are effective and cost-effective in helping people to return to work after experiencing long-term sickness absence.

! 2/3060 Using **peer support to prevent illicit drug uptake** and use in young people

The call is for research to evaluate the effectiveness of peer-led support to prevent illicit drug uptake by young people of secondary school age.

The closing date for both opportunities is 5 September 2012

! [tinyurl.com/38vv8h6](http://tinyurl.com/38vv8h6)

The Medical Research Foundation is seeking high-quality research proposals in **puerperal psychosis**. Puerperal psychosis covers a group of mental illnesses associated with the sudden onset of psychotic symptoms following childbirth. This is a challenging area for research, applications at any stage of the research pathway will be considered, from basic biology to mechanisms and interventions. The closing date for applications is 25 September 2012.

! [tinyurl.com/dybrpuj](http://tinyurl.com/dybrpuj)

The Leverhulme Trust has **Visiting Professorships** to enable distinguished academics based overseas to spend time at a UK university to enhance the skills of academic staff or the student body within the host institution. Visits can be of between three and ten months. Priority is given to new or recent collaborative ventures. Applications should be made by the responsible academic in the UK host institution. The next closing date for applications is 11 October 2012.

! [tinyurl.com/3reot9j](http://tinyurl.com/3reot9j)

The US National Institutes of Health have a call for research into **Women's Mental Health During Pregnancy and the Postpartum Period** (R21). To build on research into postpartum depression and psychosis the focus of this call is the perinatal period – the time before, during and immediately following childbirth. The research focus is on the effects of maternal mental disorders, screening and interventions for these disorders upon pregnancy and child outcomes. Priority areas are basic and clinical neuroscience, studies of clinical course, risk factors, interventions and services research. The next closing date for application is 16 November; see the website for more details.

! [tinyurl.com/ct767cl](http://tinyurl.com/ct767cl)

info

For more, see [www.bps.org.uk/funds](http://www.bps.org.uk/funds)

Funding bodies should e-mail news to Elizabeth Beech on [elibee@bps.org.uk](mailto:elibee@bps.org.uk) for possible inclusion

## Heroin role

A new report from the NHS National Treatment Agency for Substance Misuse has documented the systemic changes that need to be made to help heroin addicts in England overcome their dependence on 'opioid substitution treatment' (OST), such as methadone. At present about 150,000 heroin addicts in the country are on a substitute medication, and whilst effective as an initial treatment, there are concerns that many remain on these drugs indefinitely.

'It is not acceptable,' the report says, 'to leave people on OST without actively supporting their recovery and regularly reviewing the benefits of their treatment (as well as checking, responding to, and stimulating their readiness for change)'. A key facet of the approach endorsed by the report is for psychosocial support to be adapted to each client's individual needs: for example, making use of peer role models, self-help groups, employment support and couples or family therapy (where the family member is a non-user).

Several psychologists were members of the Recovery Oriented Drug Treatment Expert Group that compiled the new recommendations, including: Chartered Clinical Psychologist and BPS Associate Fellow Professor Alex Copello, a consultant at Birmingham University; Chartered Clinical Psychologist Dr Luke Mitcheson, a consultant at the NHS National Treatment Agency for Substance Misuse; and Chartered Clinical Psychologist Dr Stephen Pilling, Director of the National Collaborating Centre for Mental Health.

Dr Mitcheson told us that psychologists should have a central leadership role in helping to challenge the English commissioning and treatment system to ensure that psychological treatments are available and used by service users. 'This report should lead to opportunities for psychologists to design programmes as well as provide training and supervision of staff,' he said. 'The goal is to recalibrate the system to one that is more psychologically informed and focused on client outcomes.' CJ

! [Access the report: tinyurl.com/bla6737](http://Access%20the%20report%3A%20tinyurl.com/bla6737)

## Adult autism

So much attention is given to diagnosing and treating autism in childhood, it's easy to forget that the condition is lifelong and that many people reach adulthood without a diagnosis. In June the National Institute for Health and Clinical Excellence (NICE) published new guidelines for professionals working with adults with autism and autism spectrum disorders. The new advice provides information on diagnosing autism in adulthood and makes recommendations for ways to support adults with autism in finding work.

Richard Mills, Director of Research at the National Autistic Society and member of the Guideline Development Group, said: 'While there are estimated to be around 332,600 people of working age in the UK with some form of autism, only 6 per cent have a full-time paid job.' The new guideline was developed by the National Collaborating Centre for Mental Health (NCCMH), of which the Society is a partner. The NCCMH established a Guideline Development Group, which was chaired by BPS Fellow Professor Simon Baron-Cohen and included BPS Fellow Professor Patricia Howlin. CJ

! [www.nice.org.uk/guidance/CG142](http://www.nice.org.uk/guidance/CG142)

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## The alien awakened by a rubber hand

What happens if you administer a tactile illusion to a brain-damaged patient whose hand is out of their control? A team of researchers has done just that, figuring that illusions could offer new insights into complex neuropsychological disorders.

The patient in question was a 69-year-old lady whose left-sided stroke had left her with alien hand syndrome. Most of the time her right hand was held in a clenched position that she couldn't open. Occasionally, accompanied by a mild electric sensation, it moved involuntarily, jerking, or even slapping her in the face.

Michael Schaefer and his colleagues at Otto-von-Guericke University Magdeburg tested the lady on two sensorimotor illusions – the traditional rubber hand illusion and the lesser-known somatic rubber hand illusion. The first involved the patient placing one of her arms on the table-top, with the other underneath. A rubber arm was placed alongside her real arm on the table.



In *Neurocase: The Neural Basis of Cognition*

The researcher then stroked the patient's hidden arm and the rubber arm in synchrony. When the illusion works it creates the sensation of feeling in the rubber arm, as if it's a part of the person's body. In fact the patient experienced no feeling in the rubber arm at all, regardless of whether it was her healthy arm or alien arm that was being stroked under the table. The rubber hand illusion doesn't work for everyone so this null finding is not particularly surprising.

Things got more interesting when the researchers tested their patient with the somatic rubber hand illusion. This procedure involved the rubber arm being placed between the patient's two real arms on a table-top. This time, the patient was blindfolded and the researcher (wearing plastic surgical gloves) picked up one of the patient's hands and used it to tap the rubber hand. At the same time, and in synchrony, the researcher tapped the patient's other hand. This procedure creates the strong illusion for the participant that they are touching their own hand rather than the rubber hand – a feeling that the patient said she experienced.

But something surprising also happened when the researchers tried out this illusion. Within moments, the patient's alien hand leapt up off the table and was grabbed by her healthy hand. She said she felt an electric sensation in her alien hand prior to it rousing. The illusory experience seemed to have awakened her alien hand. This effect occurred every time the procedure was repeated. But crucially it only happened when it was the patient's healthy

hand that was used to tap the rubber hand, whilst the patient's alien hand was simultaneously tapped by the researcher (and not when the illusion was done the other way around). The awakening effect also disappeared when the procedure was repeated with the patient's blindfold removed, which is known to destroy the illusion.

All this suggests that it wasn't touching the alien hand *per se* that roused it, but rather it was the experience of the body illusion. Schaefer and his colleagues think that their patient has a disconnect between the anterior supplementary motor area (SMA) at the front of her brain (involved in inhibitory control) and other brain regions involved in movement. They reckon this impaired motor integration somehow interacted with the illusory feelings of body ownership triggered by the rubber hand trick. Perhaps, they said, the illusion further weakened the SMA's already compromised control of the alien hand.

'Although our results should be confirmed by further studies, we believe that the examination of experimental-induced illusions in patients with disorders of self-embodiment is promising and might help us to develop treatments for these diseases in the future.'

Some experts prefer the term anarchic hand syndrome for this patient's condition, reserving the term alien hand syndrome for a distinct but related condition in which the patient no longer believes the hand is theirs. For consistency we use the terminology adopted by the authors of this paper. For more, see [tinyurl.com/anarchichand](http://tinyurl.com/anarchichand).



### How to reverse the bystander effect

In the July issue of the *Journal of Social and Experimental Psychology*

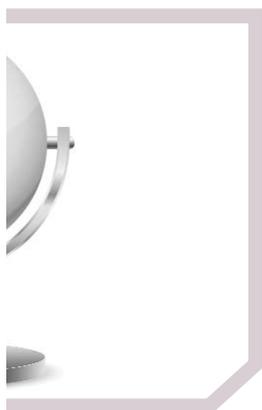
You see a shopper trip over in a busy street. Someone else can help. That's what you tell your conscience. This is the bystander effect, and it's been demonstrated in numerous studies over many years.

But life is complicated and psychologists have begun looking at the circumstances that can nullify or even reverse the effect. For a new paper, Marco van Bommel and his team tested the idea that the presence of others could in fact increase our proclivity for helping if we're nudged into a self-aware mindset and thereby reminded of our social reputation.

Two experiments were conducted using an online chat room for people with extreme emotional problems. Eighty-six students were logged in and shown five messages posted by troubled forum users – for example, one was written by a person who wanted to commit suicide. The participants were told they could write a reply if they wanted, but it was entirely up to them.

In the baseline condition, each participant could see his or her name in the top left-hand side of the screen alongside other users' names. A counter also told them if the forum was quiet, with just one other person logged-in, or if it was busy, with 30 others online.

This basic arrangement replicated the classic bystander effect – participants were less



## The new science of 'Phew!'

In the May issue of *Psychological Science*

likely to post replies when there were more people logged into the forum. However, when the researchers cued self-awareness by highlighting the participant's name in red on the screen, the bystander effect was reversed – they now posted more replies when the forum was busy compared with when it was quiet.

A second study built on these findings, but this time self-awareness was cued by the presence, or not, of a webcam on the computer. For those in the webcam condition, their attention was drawn to the device by having them check that its LED indicator light was on, although they were told that the camera wouldn't be used until a later task. In the absence of a webcam, the bystander effect was again replicated – participants on a busy forum, compared to a quiet forum, posted fewer replies to users in need. By contrast, participants cued to be self-aware by the presence of a webcam actually wrote more replies when the forum was busy, compared with when it was quiet.

'The bystander effect can be reversed by means of cues that raise public self-awareness in social settings,' the researchers said. Defending the study's relevance in a world where our social activities are increasingly taking place online, they also pointed to implications for the debate around the proliferation of security cameras in public places. 'While certain forms of self-awareness may not always be welcomed by people, the present findings do underscore their power to promote helping one another,' the researchers said.

There's a childish prank I never tire of. As soon as we've left the house and the front-door has slammed shut, I pat down all my pockets and say nervously to my companion 'Er, you've got the keys, right?'. Then, just when their dismay at the prospect of being locked out has peaked, I say 'Only joking!' and watch with pleasure as relief washes over them.

I say 'relief', but what exactly is the emotion my companion experienced? As Kate Sweeny and Kathleen Vohs write in a new article, 'Although relief is readily identified and frequently experienced, it is not understood well from the perspective of psychological science.'

Now Sweeny and Vohs have attempted to make a start at mapping out this uncharted emotional territory. They began with a pilot study asking 91 people to provide a personal example of relief. Roughly half the group described a 'near-miss' kind of relief – rather like fearing that you've locked yourself out and then realising that you haven't. The other half described a kind of 'task-completion' relief, in which a negative experience had come to an end. A second pilot study with dozens of American and Dutch participants established similarly that half their relief experiences in the preceding week were of the 'near-miss' category and half were of the 'task completion' kind.

Next, in a study in which 114 more participants reflected on recent relief experiences, the researchers found that near-

miss relief was associated with having more thoughts about how much worse things could have been and feeling more socially isolated (regardless of whether they were on their own or not). Sweeny and Vohs said this is consistent with past research showing how excessive rumination can be harmful to close relationships. Experience of task-completion relief, by contrast, was associated with more thoughts about how things could have been even better.

Lastly the researchers had a go at inducing relief. They invited 79 participants to a lab and told them they'd have to sing a song into an audio recorder. Half the participants were then told the recorder was broken, thus prompting them to experience near-miss relief. The other half of the participants did the singing, which it was presumed would be followed by the experience of task-completion relief. Quizzed afterwards, it was again found

that near-miss relief, more than task-completion relief, was associated with feelings of social isolation and thoughts about how things could have been worse. The negative counterfactual thinking mediated the social isolation – that is, the more thoughts about how bad things could have been, the more socially isolated people felt.

What does all this tell us about what relief is for? 'Experiencing near-miss relief could increase the likelihood that people will act to avert an unfavourable fate in the future,' Sweeny and Vohs said. 'In contrast, task-completion relief allows people to focus on the positive emotional experience with minimal distraction from downward counterfactual thoughts. This process might reinforce satisfaction in the completion of a job well done... and therefore increase the likelihood that people will repeat the unpleasant experience.'



The material in this section is taken from the Society's **Research Digest** blog at [www.researchdigest.org.uk/blog](http://www.researchdigest.org.uk/blog), and is written by its editor **Dr Christian Jarrett**. Visit the blog for full coverage including references and links, additional current reports, an archive, comment and more.



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# Sex and zombie cannibals

Mark Sergeant with some potential lessons from recent media reports

In the May 2011 issue I reported on the fallout of a 'practical demonstration' during a human sexuality course led by Professor Mike Bailey at Northwestern University ([tinyurl.com/0511media](http://tinyurl.com/0511media)). It appears that another human sexuality class has recently been receiving press attention.

Tom Kubistant runs a human sexuality course at Western Nevada College in the US. In a federal complaint filed on 25 June, Kubistant is alleged to have created a 'sexually hostile class environment' for a student ([tinyurl.com/bv99lb2](http://tinyurl.com/bv99lb2)).

One of Kubistant's students alleges that he asked class members to divulge information on topics such as any sexual abuse they had been the victim of, sexual behaviour with members of the same sex and also their current sexual preferences. Specific items that students were, allegedly, asked to report on included what stimuli sexually aroused them, the different types of orgasm they could experience and details of how they

stimulated themselves sexually. According to the complainant, Kubistant stated on the handout used to collect this data that he would not be reading this information because it was extremely personal. Instead, submissions by students on these topics would simply be skimmed to make sure that students had provided a response.

The student bringing the federal complaint reports that they were the victim of abuse as a child and were distressed about having to reveal information about this as part of their studies. Allegedly the student's concerns were dismissed by Kubistant, who stated that detailing her history of abuse as part of the class would be cathartic. Ken McKenna, the lawyer representing this student, indicated that Kubistant was violating professional standards by requiring students to reveal this information, stating: 'You can't just demand somebody reveal their sexual abuse when it could be psychologically harming, and it needs to be dealt with in a clinical setting instead of a classroom setting'.

At the start of this human sexuality course, Kubistant allegedly told students about the sensitive nature of the material to be discussed and asked students to sign an acknowledgement before taking the class. According to the complainant, Kubistant at no point indicated that students would be required to disclose information about their own sexual history and preferences.

A statement from Western Nevada College indicated they had initiated an

investigation and reviewed the course information, assessments and the acknowledgement signed by the students. Evaluations taken from students during the past six years were also being reviewed.

In the few days since the story broke it has generated media attention both in the US ([tinyurl.com/dytaao7](http://tinyurl.com/dytaao7) and [tinyurl.com/6lj8k6e](http://tinyurl.com/6lj8k6e)) and the UK ([tinyurl.com/bwgtktr](http://tinyurl.com/bwgtktr) and [tinyurl.com/cbncze4](http://tinyurl.com/cbncze4)).

This case, regardless of its outcome, does raise some interesting issues concerning the teaching of sexuality-related topics in academia. Lecturers need to be sensitive to the individual needs and experiences of their students, be ethically aware when asking for sensitive information and always provide students with the option of declining to respond. Developing alternative assignments is also a wise strategy.

Teaching sexuality-related topics in academia can be a difficult task. It's an area that I personally have been lecturing on for almost 10 years and it has taken a long time for me to develop the format of these lectures. I also have to give at least six separate disclaimers in my first lecture so students know exactly what to expect.



## MEDIA PRIME CUTS

Toxoplasma's dark side: The link between parasite and suicide <http://t.co/yy1mk4sx>  
 The rise of the Cyberhero League <http://t.co/w1Egxeis>  
 Need to get to safety in a riot? There's an app for that <http://t.co/J9UfxPR0>  
 Charisma class: how to win fans and influence people <http://t.co/5lfw8nm0>  
 Choke therapy: the sports stars who blew their big chance <http://t.co/Wiy2RE4c>  
 Banking, testosterone and emotional intelligence <http://t.co/uEBpkk9Q>  
 The psychology of procrastination, maybe read it later etc <http://t.co/Sy9U3eHn>

contribute

The Media page is coordinated by the Society's Media and Press Committee, with the aim of

promoting and discussing psychology in the media. If you would like to contribute, please contact the 'Media'

page coordinating editor, Ceri Parsons (Chair, Media and Press Committee), on [c.parsons@staffs.ac.uk](mailto:c.parsons@staffs.ac.uk)

linked to several other aggressive attacks in the Miami area. Moves to ban 'bath salts' were announced soon after the attack ([tinyurl.com/7o88auv](http://tinyurl.com/7o88auv)).

However, more recent toxicology reports showed that the only drug present in Eugene's blood was actually marijuana ([tinyurl.com/bqbcgvj](http://tinyurl.com/bqbcgvj)). The precise motivation and cause of the attack is still being investigated but may never be clearly documented.

In the aftermath of the attack, some are questioning the rush to ban bath salts. David Nutt, the former chairman of the Advisory Council on the Misuse of Drugs, wrote an article questioning this form of 'knee-jerk' reaction by legislators ([tinyurl.com/bvkbrce](http://tinyurl.com/bvkbrce)). Nutt argues that 'Bans are often a neat trick for placating voters, but have nothing to do with making society safer and happier', suggesting that policies should instead be based on the production of hard evidence about the effects of drugs rather than just media reports on their effects. Nutt also drew parallels with the rush to ban mephedrone in the UK following its link to the death of two teenagers. Toxicological reports, which showed that the drug was not involved in the death of the two teenagers, only emerged after the ban.

This story does give us insight into public attitudes towards extreme and troubling behaviours. Stories reported in the media with buzz words like 'cannibalism' or 'zombies' will always grab public attention. It is not uncommon for politicians to react quickly to these issues, sometimes resulting in premature legislation.

It is interesting, given toxicology reports of Eugene having tested positive only for marijuana, that this drug was also associated with highly politicised reports on its effects in the 1930s such as the, now discredited, 'Reefer Madness' ([tinyurl.com/brs49pm](http://tinyurl.com/brs49pm)).

## MEDIA PRIME CUTS

End the macho culture that turns women off science, says @AtheneDonald  
<http://t.co/Ei1iN01z>

Why you probably won't experience your own traumatic death  
<http://t.co/VXe8TKz4>

Who puts the science in MPs' in-trays?  
<http://t.co/aLEwcBis>

Should minimally conscious patients be asked if they wish to die?  
<http://t.co/81AFy0LH>

## 'IT'S NOT YOU, IT'S US'

At 31, Jonah Lehrer appeared to be having the time of his life. Since graduating from Colombia University in 2003 with a major in neuroscience and work in Eric Kandel's lab under his belt, Lehrer had carved out a successful niche as one of the early bloggers in the field of mind and behaviour. He then wrote three successful books and landed a plum role as staff writer at *The New Yorker*. Admirers spoke of him as an 'ideas man' in the mould of Malcolm Gladwell. Then, in June, media commentator Jim Romanesko accused Lehrer of self-plagiarism, and suddenly it was open season.

Others unearthed articles where Lehrer had apparently recycled chunks of his earlier writing (links at [tinyurl.com/lehrerslate](http://tinyurl.com/lehrerslate)), and Twitter was awash with comment about the rights and wrongs of this practice. Many fellow authors didn't think it was a big issue: journalist Jon Ronson tweeted that 'Victor Lewis-Smith once defended his own [self-plagiarism] by saying nobody attacks Sinatra for constantly doing My Way'. Most comments I read from psychologists were similarly forgiving. But the kerfuffle continued for another few weeks, even taking in accusations of plagiarism proper (see [tinyurl.com/lehrermore](http://tinyurl.com/lehrermore)).

Ultimately though, this seemed to be an issue for Lehrer and his editor to discuss. Indeed Lehrer's *New Yorker* work quickly had explanatory footnotes added and the author himself apologised: 'It was a stupid thing to do and incredibly lazy and absolutely wrong.' Perhaps more interesting, for our audience at least, was a blog post a week before the storm broke, from neuroscientist Bradley Votek (see [tinyurl.com/lehrerdefend](http://tinyurl.com/lehrerdefend)).

Votek opened his post, 'Defending Jonah Lehrer', by saying: 'This is a strange post for me to write because I admit I've ridden the anti-Jonah bandwagon before, advocating throwing Jonah overboard to quell the pop neuroscience storms.' Perhaps showing more honesty and self-analytical skill than many commentators, Votek admitted 'that some of my anti-Lehrerism probably stems from righteous brain-nerd ego-driven indignation. Why does this dude get all the attention when he's not even a neuroscientist?! He's just a neuroscience roadie!' That's not fair, said Votek, and 'neither is all the shit he's getting'. In fact: 'It's not you, it's us.'

So why is the neuroscientific community at fault for Lehrer's 'occasionally inaccurate scientific reporting'? 'Because our own

house is in such disarray', Votek wrote, citing 'voodoo correlations', 'double dipping' statistics in neuroimaging, and the strange case of the dead salmon in the fMRI scanner. But there are also more subtle issues, according to Votek. 'One of the main offenders living in our attic seems to be conflating the idea that because a brain region is active in one state – such as addiction – and in another task – such as mothers looking at pictures of their own babies – that babies are 'addicting'... This makes about as much sense as saying that because I kiss with the same mouth-hole that I burp from, kissing and burping are essentially the same.' In fact, Votek argues that dopaminergic neurons don't get any sensory inputs early enough to make a 'decision' about the reward value of visual stimuli, and they are probably encoding salience (relevance).

Votek writes that 'It turns out some of our strongest neuroscientific results could very well be wrong. Or, at the very least, they're not nearly as cut and dry as they're often made out to be. So how can we blame people like Mr Lehrer for linking dopamine with reward when that idea has been one of the major results...of the last 30 years?'

These errors are, according to Votek, running amok in our own scientific house. Cognitive neuroscience grew out of experimental psychology, he says, 'but with this legacy comes a lot of baggage... With the advent of neuroimaging techniques, psychologists put people in brain scanners to see where in the brain behaviours "were". But this is the wrong way of thinking about these concepts. As cognitive neuroscientists, instead of asking, "where in the brain does this fuzzy concept occur?" we should be asking, "how can neurons give rise to behavioral phenomena that look like what we call creativity?"...we need to build upon what we've learned from decades of psychological research within a neuronal framework. Not just stick people into an fMRI, press some buttons on a computer that say "analyze", and copy-and-paste the figures into a paper.'

Votek concludes that Lehrer needs to keep up the interesting writing. 'Just... please be more skeptical of us. We don't know nearly as much as you give us credit for.' Perhaps, there, Votek has hit upon why we shouldn't be so quick to judge and criticise authors like Lehrer, and how authors like him can play an important role in questioning and sharpening our own scientific thinking. JS