

## Inside the autistic brain

Researchers reported in August that they'd used a 15-minute structural MRI scan to identify several brain differences between male adults with autism and healthy controls, and further, that they'd devised an algorithm that could use these differences to categorise an autistic brain as autistic with 90 per cent accuracy (*Journal of Neuroscience*, [tinyurl.com/3xypbv7](http://tinyurl.com/3xypbv7)).

The distinguishing brain features included the undulation of sulci and gyri (the peaks and troughs of the cortex), as well as patterns of cortical folding and thickness, demonstrating, the researchers said, that the "autistic brain" is not just bigger or smaller but is also "abnormally shaped". The participants were 20 high-functioning male adults diagnosed with autistic spectrum disorder (ASD), 20 male healthy controls and 19 males with a diagnosis of ADHD.

In their report, Christine Ecker at the Institute of Psychiatry and her colleagues mentioned the potential diagnostic utility of the findings, but acknowledged that 'further extensive exploration in the clinical setting' will be needed. The researchers also said they hoped the distinguishing features they'd identified could help 'further

exploration of the genetic and neuropathological underpinnings of ASD.'

Ecker told *The Psychologist* that classification algorithms of the kind used here are highly specific to the sample that they are 'trained' on.

'The advantage', she explained, 'is that the classifier offers high specificity with regard to this particular subject group, but it is less specific to other cohorts on the spectrum. Therefore, the more data becomes available to us [through validating the technique on different autistic spectrum subgroups and complex cases with comorbid conditions], the better our approach will become... This highlights a huge need for the acquisition/data sharing of additional well-defined

subject groups that we haven't investigated yet.'

The media headlines attracted by the new findings were not so equivocal: 'New brain scan to diagnose autism' (BBC), 'Experts hail new test that can diagnose autism in 15 minutes' (*The Independent*). Enthusiastic journalists were helped on their way by a press release from the Medical Research Council (MRC), the body responsible

for funding the research. 'The value of this rapid and accurate tool to diagnose ASD is immense,' Ecker was quoted as saying.

Sceptical experts were quick on the scene. Writing in *The Guardian*, Carl Heneghan, director of the

Centre for Evidence Based Medicine, said that to be taken

seriously, potential diagnostic tools need to be tested on patients with a broad range of disease severity, including some suspected of having, but not known to have the target condition. Heneghan also raised the issue of specificity – the risk



Distinguishing brain features included the undulation of sulci and gyri

## Psychosis tapestry unveiled

The Bethlem Tapestry, featuring the work of patients at the Bethlem Royal Hospital's psychosis unit, will be unveiled in a new exhibition for World Mental Health Day 2010 (10 October). The display at the Bethlem Gallery was led by artist Mark McGowan and involved patients, staff, volunteers and carers.

The tapestry comprises images and text made by the participants depicting experiences, thoughts and feelings in their daily lives. It will be permanently installed on the ward for the long-term enjoyment of patients, visitors and staff.

Mark McGowan is a former patient of the Bethlem Royal Hospital – part of the South London and Maudsley NHS Foundation Trust (SLaM) – having spent time at the hospital between 1992 and 1998. Mark said: 'I was very ill and came to SLaM in a really bad state. As a patient I was given access to the arts facilities and never looked back.' Since leaving the Bethlem, Mark went on to complete an art degree and now teaches at the Chelsea and Camberwell



Colleges of Art, having travelled the world through his art projects.

Dr Sukhi Shergill, who initiated the project, said: 'The tapestry project was in tune with recent National Institute for Clinical Excellence (NICE) guidelines on treating psychosis which highlight the benefits of art therapies for patients, not only in enhancing creative expression, but also in initiating dialogue and helping build confidence.'

Pamela Jacobson, a clinical psychologist within the National Psychosis Unit, said the creative groups had been very beneficial to patients: 'They have given people an opportunity to feel involved and to produce something which will be valued.' DJ

**I Free entry; runs until 15 October 2010. See [www.bethlemgallery.com](http://www.bethlemgallery.com).**

of false positives – an especially pertinent issue for any condition where the base rate in the general population is low (ASD has a prevalence of about 1 per cent). Whereas the new algorithm correctly categorised a person with autism with 90 per cent accuracy, Heneghan said the 80 per cent specificity of the test would mean that a random person receiving a positive result would have only a 4.5 per cent likelihood of having autism.

Dorothy Bishop, Professor of Developmental Neuropsychology at the University of Oxford, echoed Heneghan's concerns and pointed to a further problem with the media presentation of the study as a diagnostic breakthrough. 'The reductionist notion that a person's behaviour is solely a function of their brain morphology is unrealistic given what we know about structural and functional brain variation in normal and abnormal development,' she said.

'Quotes attributed to the authors imply we should abandon conventional diagnostic methods and just put people in the scanner instead,' Bishop continued. 'This would be rash given the small scale of the study, the existence of false positives, and the multifactorial nature of autism etiology. It is unfortunate that interesting findings from this study have been overshadowed by misleading media hype. Worldwide, there are now plenty of brain-imaging studies of both children and adults with

autism and other clinical conditions: I hope the authors will take advantage of these datasets to replicate and extend their findings before promoting their work as a diagnostic tool.'

Ecker said she and her colleagues were amazed by the huge media coverage of their research. 'Of course there is only so much scientific information that we were able to relate to the public via the press, and with good press comes bad press too. For instance, some experts said we had exaggerated the accuracy of our approach as it is unsuited for a "population screen" (i.e. assessing every single individual of the UK population). However, our test was never designed to screen the entire population. Instead it could be used: (1) if there is a suspicion of autism that needs to be confirmed using a biological test, (2) there is a high risk that an individual is affected, and (3) to confirm the diagnosis in the absence of the informants that are needed for the conventional diagnosis.

'The strong media interest and the very positive reaction by the public clearly demonstrates that we are working on something that could be of huge benefit in the future and that could be truly useful for affected individuals, their parents and the NHS,' Ecker said. 'And if we get some bad press on the way, we still know that we are working towards a goal that is well worth fighting for.' ❏

DUNCAN PHILLIPS/REPORTERITAL.CO.UK

## A-LEVEL RESULTS

Figures released in August show that 54,940 students (73 per cent of them female) sat A-level exams in psychology this year, up from 52,872 in 2009. That means the subject retains its place as the fourth most popular at A-level behind English (89,320) maths (77,001) and biology (57,854). Biology, chemistry, physics and sociology also enjoyed increases in student numbers.

While the proportion of students awarded an A grade rose overall to 27 per cent this year, psychology actually experienced a fall in the proportion of A grades awarded to 18.7 per cent (including 5.2 per cent at the new A star level), down from 19.2 per cent in 2009 and 19.3 per cent in 2008. Girls outperformed boys, with 21.3 per cent of them achieving an A grade compared with 11.7 per cent of boys. Once again, there was a rise in the proportion of psychology students achieving a grade C or above – 69.6 per cent compared with 68.8 per cent last year and 67.7 per cent in 2008. ❏

! The full results are at [www.jcq.org.uk](http://www.jcq.org.uk)

# An evolving case of misconduct

Marc Hauser, the author of *Moral Minds: How Nature Designed a Universal Sense of Right and Wrong*, has been found guilty of scientific misconduct by a Harvard University investigation that began in 2007. An evolutionary biologist by training, Hauser worked in the psychology department at Harvard and is considered a leading light in the fields of animal cognition and the evolutionary basis of morality.

In a letter to colleagues that's been leaked to the press, the Dean of Harvard's Faculty of Arts and Sciences said: 'It is with great sadness that I confirm that Professor Marc Hauser was found solely

responsible, after a thorough investigation by a faculty investigating committee, for eight instances of scientific misconduct under FAS standards.'

These eight counts of misconduct have led to one paper being retracted ('Rule learning by cotton-top tamarins', *Cognition*, 2002, 86, B15–B22), one corrected ('Rhesus monkeys correctly read the goal-relevant gestures

of a human agent', *Proceedings of the Royal Society B*, 2007, 274, 1913–1918), with one

under discussion ('The perception of rational, goal-directed action in nonhuman primates', *Science*, 2007, 317, 1402–1405). The other five counts relate to unpublished work or to

problems that were corrected prior to publication. Hauser is now on leave until autumn of next year.

What other sanctions he may face remain unclear. As Hauser received federal funding for his research, he is also under ongoing separate investigation by federal authorities.

In a statement e-mailed to several news outlets, Hauser said: 'I am deeply sorry for the problems this case has caused to my students, my colleagues, and my university. ... After taking some time off, I look forward to getting back to my work, mindful of what I have learned in this case. This has been painful for me and those who have been associated with the work.' Hauser's next book is *Evilicious: Explaining Our Evolved Taste for Being Bad*. ❏  
! See also Webchat, p.789

## IN BRIEF

From the American Psychological Association Annual Convention, San Diego, 12–15 August 2010

**Childhood trauma casts a long shadow.** Janice Kiecolt-Glaser at Ohio State University College of Medicine recruited 58 participants caring for a close relation with Alzheimer's and 74 non-carer controls. Regardless of caregiver status, a history of childhood abuse (physical, emotional or sexual) was associated with depression and biochemical markers of stress, including increased inflammation. 'These early childhood experiences have lasting, measureable consequences later in life, producing effects that are large enough to be perceptible even in the face of a current major stressor...' Kiecolt-Glaser said. 'The findings show the importance of intervening early to prevent these stress effects.'

Rapid eye movement (REM) sleep – the stage associated with vivid dreams – may be particularly important to creativity. Sara Mednick at the University of California, San Diego, gave students a divergent thinking test (the Remote Associates Test) in the morning and again in the afternoon, after they'd either rested quietly, had a REM-free nap or a nap with REM. Whereas the non-REM students showed no improvement, the REM students improved by 40 per cent. 'REM sleep is important for pulling together all the information we process on a daily basis and turning it into memories we can use later,' Mednick said.

**Contemporary books and films are giving boys a distorted sense of masculinity that says they must strive to be either a superhero or a slacker.** That's according to Sharon Lamb at the University of Massachusetts-Boston, based on her survey of hundreds of boys, her perusal of shopping malls and interviews with shop assistants. 'Slackers are funny, but slackers are not what boys should strive to be; slackers don't like school and they shirk responsibility,' Lamb said. 'We wonder if the messages boys get about saving face through glorified slacking could be affecting their performance in school.'

Chronic pain conditions like fibromyalgia are more common in women than men, due in part to hormonal effects, but also to the contrasting ways the genders view pain. 'Women tend to focus on the emotional aspects of pain,' said Jennifer Kelly of the Atlanta Center for Behavioral Medicine. 'Men tend to focus on the physical sensations they experience. Women who concentrate on the emotional aspects of their pain may actually experience more pain as a result, possibly because the emotions associated with pain are negative.' Kelly advocated teaching coping strategies and encouraging women to feel that pain is something they can manage.

**Against the backdrop of research seminars showing that children raised by same-sex parents are on a par with children raised by opposite-sex parents in terms of psychological adjustment, cognitive abilities and social functioning, the APA reaffirmed its support for same-sex marriage.** 'As the world's largest organisation of psychologists, we felt it was important to make a statement here and now to demonstrate APA's unwavering support of marriage equality,' said APA President Carol D. Goodheart. **CJ**

## Pakistan floods

As we go to press, the deluge in Pakistan continues. More than 1600 people have died and about 17 million of Pakistan's 166 million people have been affected by the disaster. Deputy Prime Minister Nick Clegg described the international response as 'absolutely pitiful', and science blogger Jonah Lehrer (see [tinyurl.com/29v43hk](http://tinyurl.com/29v43hk)), speculated that the floods 'have received far less attention than warranted, in part because most of the stories focus on the vast scope of the disaster, and not on individual tragedies'. But there are signs that the psychological impact is being considered, even as the waters slowly subside.

So what is the situation

like on the ground? 'It's extremely traumatic, and the extent of this event is beyond our imagination,' Dr Rukhsana Kausar, from the Department of Applied Psychology at the University of the Punjab, told *The Psychologist*. 'Day and night, watching the miseries of our country fellows on TV is so distressing and it has resulted in feelings of helplessness. It has not stopped yet – every day it is sweeping away hundreds of villages, resulting in numerous deaths and changing the geography of our country. Every day women and children are dying due to hunger, and there are areas where no one has reached yet.'

Although Dr Kausar noted there was an inevitable focus

## REMOTELY REWARDING

Dr Amanda Potter, a Chartered Occupational Psychologist and Associate Fellow of the British Psychological Society, has won the BlackBerry Remote Employer Award. The scheme is aimed at identifying and honouring entrepreneurs who have proved how home working and remote working has made a beneficial impact on their business.

Dr Potter is Managing Director of Zircon Management Consulting, a business psychology company established in 2000. She told *The Psychologist*: 'Our expertise is drawn from a team of 140 remote consultants to deliver creative solutions for our clients. We are delighted that the judges gave us credit for proving that having a remote workforce enables companies to improve business productivity with an eco solution, whilst giving their team the opportunity to have autonomy and a positive lifestyle.'

on rescue and survival, she said there were also signs that a professional response was developing. 'Right now I am compiling material

specifically linked to flood-related

trauma. We are putting all our efforts into finding credible people who can deliver the goods to the right people. One of our senior colleagues and psychologists is Vice Chancellor of the Karakoram International University, Gilget, one of the hard-hit areas. She is mobilising fellow psychologists and acquaintances to donate so that she can help people in her area. We had been very active in previous traumatic incidents, such as earthquakes, and with internally displaced persons... we do aim to provide psychological support to the flood victims and will ask our international colleagues to also provide help, but right now sending teams to such areas – which in most of the cases are only accessible through helicopters – is not possible.' Kausar further called for the BPS,

through its members, to provide support in trauma counselling training.

The International Medical Corps reported that some such interventions had indeed taken place: 'Psychosocial teams have identified people with depression, anxiety, and significant psychological distress. To date, they have conducted individual and group sessions for approximately 400 individuals, including children under the age of 12.' Falak Niaz, one of their psychologists, told us that counsellors have been conducting activities for the affected population to lessen their stress levels, such as games, drawing and colouring, singing and sharing of jokes with children. 'We would appreciate training for our psychologists and counsellors on mental health response in emergency setting, any literature on this topic, recreational materials, toys, etc. [jkh@internationalmedicalcorps.org]. The humanitarian response was quick and immediate, but given the scale of devastation and damage to communication networks, it is still very difficult to fulfill all the needs of all the people affected by floods – more than 20 million.' JS

## Lords inquiry

The House of Lords Science and Technology Committee has appointed a sub-committee, chaired by Baroness Neuberger, to investigate ways to change population behaviour in relation to health, the environment and other governmental concerns (see <http://ht.ly/2xVym>). Chartered Health Psychologist Professor Charles Abraham at the University of Sussex is acting as special adviser. In language that sounds reminiscent of the liberal paternalism approach made popular by the 2008 book *Nudge*, the sub-committee's formal call for evidence explains how governments are becoming increasingly interested in 'different types of behaviour change policy interventions that rely on measures other than prohibition or the elimination of choice'.

The inquiry will explore which behavioural interventions have been successful in the past and which haven't, and the implications this has for future policy. There will be a focus on two case studies, the first of which is obesity (the second is to be announced in due course). Written evidence submissions must be received by 8 October. Public meetings are to be held from November this year, and a report on the findings is slated for publication in summer 2011. CJ

## RESEARCH FUNDING NEWS

The Wellcome Trust has launched a **New Investigator Award** to support world-class researchers who are no more than five years from appointment to their first academic position, but who can already show that they have the ability to innovate and drive advances in their field of study. The scheme is open to biomedical, public health and clinical researchers.

! <http://bit.ly/b0g850>

The Royal Society of Edinburgh has a Bilateral Programme for **short-term visits (one to four weeks) by researchers from Scotland to international Academies of Science** that the Society has Memorandum of Understanding with. These include China, Czech Republic, Hungary, Malaysia, New Zealand, Poland, Slovakia, Slovenia, Taiwan, India and Pakistan. Closing date: 1 November 2010.

! <http://bit.ly/90HPpC>

The Royal Society's **International Joint Project** programme enable international collaboration by providing a **mobility grant for research teams** to cover travel, subsistence and research expenses. Collaborations should be based on a single project including two teams or individuals, one based in the UK and the other based outside the UK. The closing date for round three applications is 25 November 2010. This includes funding for joint projects with Ireland, India and a range of other countries.

! <http://royalsociety.org/international-joint-projects>

The National Institute of Mental Health (US) has issued a funding opportunity to advance **understanding of the complex behavioural and social factors that play a part in determining the efficacy and effectiveness of new biomedical strategies to curb HIV infections**. Areas of focus for research include: Promoting prevention trial recruitment, screening, enrolment and retention; Enhancing product acceptability, uptake and adherence; Risk behaviour and risk counselling; Advancing combination prevention approaches; Conducting community engagement, implementation and operations. The deadline for submission of letters of intent is 4 December 2010.

! <http://bit.ly/9EhqQb>

Funding is also available from the National Institute of Mental Health to develop and test new HIV prevention interventions to help curb the spread of HIV infection, reduce HIV-associated morbidity and **reduce health disparities in HIV rates among the most at-risk men who have sex with men (MSM)**. The development of interventions tailored specifically to MSM, interventions targeted at younger generations, particularly those who do not frequent existing community services and do not respond to traditional media outreach efforts. Community and structural level interventions are also needed. The deadline for submission of letters of intent is 6 December 2010.

! <http://bit.ly/aoWoxo>

The Foundation for the Study of Infant Deaths has grants available for research into **postnatal health, morbidity and mortality**. Areas of research include understanding how parents care for their infants and what influences their choices, and multidisciplinary research into sudden infant deaths. Closing date is 28 January 2011.

! <http://fsid.org.uk/Page.aspx?pid=259>

### 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

## How to apologise

Whether it's a company like BP apologising for causing environmental catastrophe or a political leader expressing regret for her country's prior misdemeanors, it seems there's barely a day goes by without the media watching hawkishly to find out just how the contrite words will be delivered and what effect they'll have on the aggrieved.

Surprisingly, psychology has, until now, paid little attention to what makes for an effective apology. Past studies have tended to focus instead simply on whether an apology was given or it wasn't. Now Ryan Fehr and Michele Gelfand at the University of Maryland have drawn on research in other disciplines, including sociology and law, to explore the idea that apologies come in three forms and that their impact varies according to the character of the victim.

The three apology types or components are: compensation (e.g. I'm sorry I broke your window, I'll pay to have it repaired); empathy (e.g. I'm sorry I slept with your best friend, you must feel like you can't trust either of us ever again); and acknowledgement of violated rules/norms (e.g. I'm sorry I advised the CIA how to torture people, I've broken our profession's pledge to do no harm).

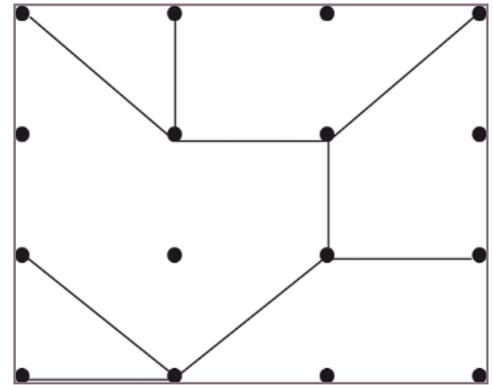
Fehr and Gelfand's hypothesis was that the effectiveness of these different styles of apology depends on how the aggrieved person sees themselves (known as 'self-construal' in the psychological jargon). To test this, the researchers measured the way that 175 undergraduate students see themselves and then had them rate different forms of apology. In a follow-up study, 171 more undergraduates reported how they see themselves and then they rated their forgiveness of a fictional student who offered different forms of apology after accidentally wiping her friend's laptop hard-drive.

The researchers found that a focus on compensation was most appreciated by people who are more individualistic (e.g. those who agree with statements like 'I have a strong need to know how I stand in comparison to my classmates or co-

workers'); that empathy-based apologies are judged more effective by people who see themselves in terms of their relations with others (e.g. they agree with statements like 'Caring deeply about another person such as a close friend is very important to me'); and finally, that the rule violation kind of apology was deemed most effective by people who see themselves as part of a larger group or collective (e.g. they agree with 'I feel great pride when my team or work group does well' and similar statements). These patterns held regardless of the severity of the misdemeanour, as tested by using different versions of the disk-wipe scenario in which either an hour's or several weeks' worth of data were lost.

The message, the researchers said, is that when apologising you should consider your audience. 'This need to meta-cognize about what a victim is looking for in an apology is particularly important when victims' and offenders' worldviews diverge,' they added. Of course, if in doubt about the character of your victim or victims, the researchers said that 'detailed apologies with multiple components are in general more likely to touch upon what is important to a victim than brief, perfunctory apologies. Offenders should therefore offer apologies with multiple components whenever possible.'

In the September issue of *Organizational Behavior and Human Decision Processes*



### Flynn effect for memory?

In the August issue of the *Journal of Clinical and Experimental Neuropsychology*

In Western countries, scores on IQ tests have been rising for several decades – the Flynn effect, named after the political scientist James Flynn. Now Sallie Baxendale at the Institute of Neurology has provided evidence that a similar effect has occurred for the standardised memory tests that are used by clinical neuropsychologists, a finding with implications for the diagnosis of memory problems in contemporary patients.

Baxendale looked at the Adult Memory and Information Processing Battery (AMIPB) – 'the most commonly used memory battery amongst clinical neuropsychologists in the UK' – published in 1985, and its successor, the Brain Injury Rehabilitation Trust Memory and Information Processing Battery (BMIPB), published in 2007. Although different in wording and design, the two tests make equivalent demands: learning and recalling lists of words, and learning and recalling abstract line drawings.

Baxendale compared the performance of the two samples that provided the original 'normative' data for the two tests. These are the healthy participants spanning four age ranges whose average performance provides the benchmark for assessing patients. The normative data for the AMIPB was provided in 1985, or thereabouts, by 184 British people aged 18 to 75; the normative data for the BMIPB was collected in 2007 or thereabouts from 300 British people aged 16 to 89.

There was little evidence of any difference in average performance on verbal learning and recall between the 1985 and 2007 samples. By contrast, visual learning and recall were both superior in the 2007 sample compared with the 1985 sample at all four age ranges. This is consistent with the traditional Flynn effect, which is most pronounced for non-verbal intelligence tests.

Baxendale said her findings have implications for diagnosis because present-day patients may, pre-trauma or pre-illness, have had elevated non-verbal learning and recall scores in comparison to the old normative data. Such patients could be impaired relative to their own healthy baseline, and yet appear unaffected compared with the out-of-date normative data. 'This may present a confound for neuropsychologists concerned with the lateralising and localising significance of memory test profiles,' Baxendale said.



### Video protects girls from negative effects of looking at ultra-thin models

In the *British Journal of Health Psychology*

'No wonder our perception of beauty is distorted' - that's the concluding catchphrase of a one-minute video (tinyurl.com/ylzku6) called 'evolution' made by Dove a few years ago to show how cosmetics and computer trickery are used to create the unrealistic portrayals of female models on advertising billboards. Now a team of researchers at the University of the West of England, led by Emma Halliwell, have tested whether viewing this short video can buffer young girls against the negative effects of looking at images of ultra-thin female models. Past research found such a benefit when adult women viewed a similar video but this is the first time the idea has been investigated with young girls.

One hundred and twenty-seven girls, aged 10 to 13, from two schools in the south of England, were recruited for what they thought was an evaluation of 'attitudes to health, appearance and magazines'. In keeping with the cover story, tests of body satisfaction and esteem were embedded among other questionnaires to try to conceal the true purpose of the study.

Consistent with past research, girls who looked at thin models subsequently reported lower body satisfaction and confidence compared with girls who looked at pictures of landscapes (in turn, prior research has linked lower body self-esteem with increased risk

of developing an eating disorder). The key finding was that this negative effect was not seen among the girls who watched the Dove video first, before looking at the ultra-thin models. The body self-esteem and confidence of these girls was just the same as among girls who watched the video and then looked at pictures of landscapes.

'Theoretically, we assume that the intervention disrupted the upward social comparisons that many young girls make when viewing idealised media images,' the researchers concluded. 'Moreover, we propose that the comparison is avoided because the media models have been construed as artificial and, therefore, an inappropriate comparison target.'

Halliwell and her team added that future research will be needed to test the truth of this reasoning and whether the benefits of watching the evolution video, or others like it, can be sustained over time.

### Feeling clean makes us harsher moral judges

In the September issue of the *Journal of Experimental Social Psychology*

As the dirt and germs are wiped away, we're left feeling not just bodily but also morally cleansed - a kind of metaphorical virtuosity that leads us to judge others more harshly. That's according to Chen-Bo Zhong's team, who invited 58 undergrads to a lab filled with spotless new equipment. Half the students were asked to clean their hands with an antiseptic wipe so as not to soil the shiny surfaces. Afterwards all the students rated the morality of six societal issues including pornography and littering. Those who'd wiped their hands made far harsher judgements than those who didn't.

It was a similar story in a follow-up study with hundreds of participants recruited via a nationwide database. Those primed to feel clean by reading a short passage that began 'My hair feels clean and light. My breath is fresh...' made far harsher moral judgements about 16 social issues compared with those primed to feel dirty

by a passage beginning, 'My hair feels oily and heavy. My breath stinks...'

A third study was identical to the second, except that after reading either the dirty or clean passage of text the 136 undergraduate participants also ranked themselves against their peers on several factors including intelligence, attractiveness and moral character. As before, those primed with the clean text made more harsh moral judgements on social issues. Crucially, this association was entirely mediated by their having an inflated sense of moral virtuosity compared with their peers (by contrast, reading the clean vs. dirty text made no difference to self-rankings on the other factors).

'Acts of cleanliness have not only the potential to shift our moral pendulum to a more virtuous self, but also license harsher moral judgement of others,' Zhong and his team concluded.



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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## In a dark place

Mark Sergeant on the psychological plight of the Chilean miners

Unless you have also spent the last month stuck down a mineshaft you will have heard about the plight of the 33 Chilean miners trapped 700 metres underground after a cave-in at San José copper and gold mine. After nearly three weeks of searching, the miners were found alive, and subsequent video footage revealed them to be in very good shape, considering. 'We are happily surprised because they are in much better shape than we could have hoped for,' said Alberto Iturra, the leading psychologist on the rescue team (see [tinyurl.com/36afodv](http://tinyurl.com/36afodv)).

Current estimates suggest it will take around three or four months for the miners to be brought safely back to the surface. After the initial jubilation of finding the miners alive wore off, the realisation of the considerable challenge faced set in. The psychological elements of the situation appeared to capture the imagination of the media and public alike, to a far greater extent than the concurrent humanitarian disaster of the Pakistan floods. Perhaps the 'identifiable victim bias', demonstrated by Paul Slovic (see [tinyurl.com/29v43hk](http://tinyurl.com/29v43hk)) is at play here: the vast scope of the tragedy is simply too much for our minds to deal with, whereas we can all at least imagine finding out we will have to spend the next four months in a 600 square metre space with 32 of our work colleagues (surely enough to send most of us in to a mild depression).

As there are parallels between the experiences of the miners and those engaged in space exploration, enduring long periods of isolation away from friends and family members, several officials from NASA have been called upon for advice on the psychological hardships that the miners will have to endure. A NASA psychologist advised against 'false hopes' [tinyurl.com/2v2cymg](http://tinyurl.com/2v2cymg), but Society member Dr Jennifer Wild told

the *Daily Mail* that 'the more confidently rescue workers can convey information that they will be successfully rescued, the better this will be for the miners' ([tinyurl.com/23qxfaq](http://tinyurl.com/23qxfaq)). John Cacioppo, a University of Chicago psychologist who specialises in social isolation, told *National Geographic* that 'if the miners who are trapped can bond and work together to tick off the days they are separated from their families and friends, it would help them survive the ordeal' (see [tinyurl.com/3x5yj37](http://tinyurl.com/3x5yj37)).

One of the most significant psychological challenges the men face will be to adapt to the unstructured world in which they now live. In addition to the lack of a clear day-night cycle, the men have no actual work to distract them from their situation. Professor John Fairbank of Duke University was quick to point out that 'You have to normalise the situation as much as you can... People need a routine to know what to expect in their day and to have something to do with all the time they have.' Some of the first items sent down to the miners to offer some distraction have included playing cards, dominoes and a small portable television. Interestingly, one of the first requests the miners made themselves was for toothbrushes to be sent down to them, a reassuring symbol of domestic life as well as a useful hygiene tool.

Initially those heading the rescue efforts did not inform the miners that it may take so long to rescue them. There was concern that discovering they would be trapped in this environment for up to four months may cause the onset of

depression among some of the miners. Several media outlets reported that antidepressants would actually be sent down to the miners in addition to other supplies.

In principle this sounds like a good idea, but I've seen for myself that using antidepressants as a quick fix is rarely the best idea in a traumatic or stressful situation. I completely agree with Dr Lesley Perman-Kerr, a chartered psychologist and psychotherapist, who stated that antidepressants should only be prescribed after careful diagnosis and their effects should be closely monitored.

Dr James Thompson, a senior lecturer in psychology at University College London, has prepared a mini-lecture on the Chilean miners' psychological struggles ([tinyurl.com/2wnd3lo](http://tinyurl.com/2wnd3lo)). 'About five out of the 33 are in trouble at the moment with depression and not wanting

to participate. Our usual rule of thumb from research is that for civilians about a third of people show prompt effects. So this number, with the rather tougher self-selected miners, at five out of 33 is pretty good going,' Thompson commented. 'Although the situation now is much better than it was, when they didn't know whether they were going to be found, in a sense now that they are "partly safe", they can allow themselves to be depressed and

anxious and impatient and all sorts of things which in one's pure survival phase are really something of a luxury.'

The media are likely to follow every development over the next few months, particularly their psychological well-being under such extreme conditions. Although their prospects for rescue now look promising, it will be the responsibility of psychologists to help maintain their mental health over the coming weeks and months. Unfortunately, as we went to press, lead psychologist Iturra was reporting that 'the honeymoon is over' (see <http://ow.ly/2GkJG>). 'If there is one group that is not exactly disposed to psychologists it is miners,' said Dr Rodrigo Figueroa, a psychiatrist with Chile's Catholic University hired to monitor the mental health treatment. 'NASA told us we have to receive the arrows,' said the lead physician Dr Jorge Diaz, 'so that they don't start shooting the arrows at each other.'



Message in a bottle from the mother of one of the miners

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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'

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