

Developing the most effective actions

Two US-based psychologists have published a list of the most effective actions American individuals and households can take to help prevent climate change – the gist of which is also relevant to the UK.

Writing in *Environment* magazine, Gerald Gardner, professor emeritus at the University of Michigan-Dearborn, and Paul Stern, Director of the Committee on the Human Dimensions of Global Climate Change at the National Research Council, argue that many people are motivated to change their behaviours to protect the planet, but have been left uninformed by environmental

campaigns about which actions are the most effective.

American research conducted during the energy crises of the late 1970s and early 1980s suggested that without appropriate guidance, people tend to focus on highly visible, curtailment-based actions – turning out lights, turning down thermostats – which are actually relatively ineffective compared with more proactive behaviours, such as installing insulation or switching to a more energy-efficient car.

Gardner and Stern argue that investing in energy-efficient equipment, as well as curtailing the use of inefficient equipment, is the most

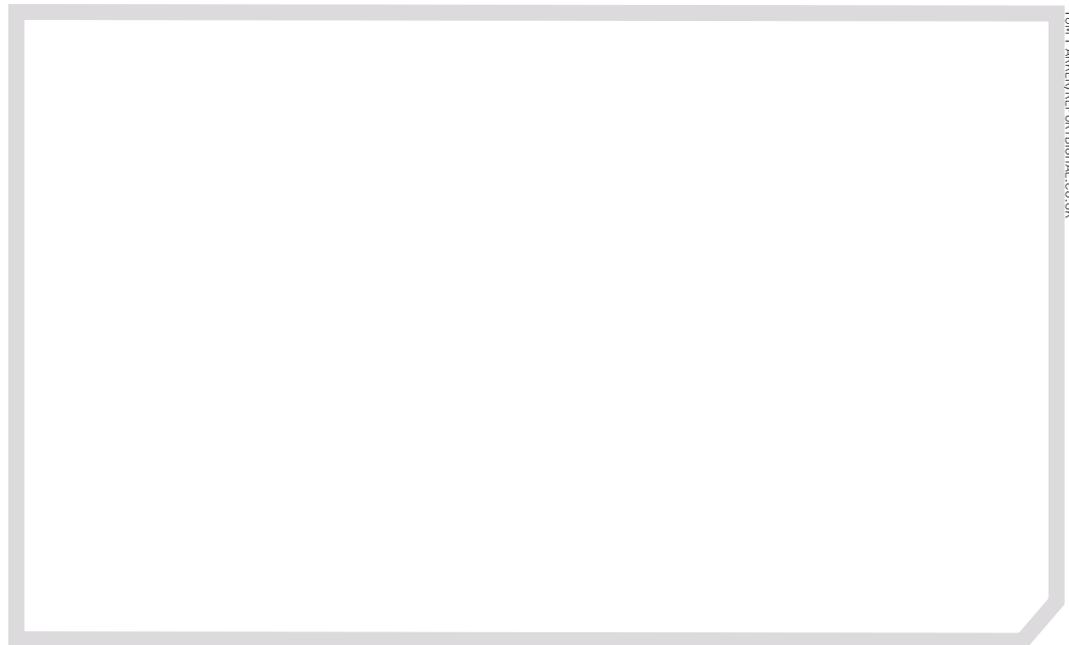
effective way to reduce consumption, and has the advantage of being psychologically appealing. 'Not only is efficiency generally more effective than curtailment,' they wrote 'but it has the important psychological advantage of requiring only one or a few actions. Curtailment actions must be repeated continuously over time to achieve their optimal effect, whereas efficiency-boosting actions, taken infrequently or only once, have lasting effects with little need for continuing attention and effort.'

These are important issues given just how much energy is consumed by households as a proportion of a country's total usage (38 per cent in

World happiness on the rise?

Never mind that the world is in the grip of financial turmoil, global happiness is apparently on the rise thanks in large part to greater individual liberty. Psychologist Christopher Peterson at the University of Michigan and colleagues analysed five waves of cross-national survey data between 1981 and 2007, and found significant increases in subjective well-being among 45 countries including the UK, out of the 52 that were involved (*Perspectives on Psychological Science*: tinyurl.com/6pgzc4).

The new analysis contrasts with the traditional view that the happiness of societies remains fairly constant. This fixed perspective is based on longitudinal data from rich Western countries like America, where happiness levels have reportedly flat-lined since 1946. However, the data analysed here, from the World Values Survey, have several advantages over past studies. Reported well-being levels incorporated a measure of life satisfaction as well as happiness, and the same



TOM PARKER/REPORTDIGITAL.CO.UK

questions were asked across the world (with great care taken over translation), from countries at different stages of economic development.

The most important influence on the rising happiness levels was found to be increased levels of

individual freedom. 'Recent decades have seen unprecedented economic development in large parts of the world and a widespread expansion of political freedom,' the researchers wrote. 'Moreover, the people of rich democracies have also

experienced major changes in social norms, with rising gender equality and growing tolerance of outgroups increasing freedom of choice for over half of the population and creating a more tolerant social environment for everyone.' CJ

to reduce energy consumption

America, including non-business travel; 31 per cent in the UK, not including travel). If an American household were to carry out all 17 actions on Gardner and Stern's list they could potentially reduce their energy consumption by half (assuming they hadn't completed the actions before, and that old equipment was only replaced at the end of its natural life). For the complete list of actions, see tinyurl.com/5jd6f7.

Coincidentally, not long after Gardner and Stern published their article arguing that people need to be educated about the disproportionate benefits of adopting energy-efficient equipment and materials, the British government announced plans to supply free cavity-wall and loft insulation for pensioners and poor households, and to offer 50 per cent off the cost of insulation for all households (see tinyurl.com/6epj7q).

'I'm glad to hear of this initiative,' Stern told *The Psychologist*. 'It certainly goes a long way towards overcoming the financial barriers – a 50 per cent rebate can be quite effective if it is easy to collect and if it is marketed strongly, using many approaches including personal contacts.'

Gardner agreed, adding that the non-financial aspects of such initiatives are particularly important: 'factors such as how well it is marketed, the use of community groups and word of mouth; how easy it is to apply for the rebate, how easy it is for a typically busy homeowner to comply with the requirements'.

However, while Stern and Gardner welcomed these recent initiatives by the UK government, they told us they felt psychologists could be doing more to help. 'They tend to do the wrong things, such as focusing on attitudes only, or on relatively unimportant behaviours,' they said. CJ

WEBSITES

www.bbcprisonstudy.org

a resource to accompany Alex Haslam and Steve Reicher's experiment

www.NetRegs.gov.uk

environmental law website with new guidance for businesses in the healthcare sector

THE LIST

Gardner and Stern's list is broken down into separate categories, taking into account that while costly actions might be more effective, there is also a need for people to know the relative effectiveness of cost-free or low-cost actions.

- For individuals/households, the most effective low-cost/short-term green behaviour in relation to transportation is to share car journeys or 'carpool'; in relation to the home, it's to replace incandescent bulbs with compact fluorescent bulbs.
- For longer-term benefits, with a higher financial cost, the most effective action in relation to transport is to buy low-rolling resistance tyres. The next most effective action is to buy a more fuel-efficient car. The latter action is complicated by the issue of whether one's current car is still useable. If it is, then the energy cost of producing the new car counts against any gains.
- Finally, for home-owners (as opposed to tenants who can't really do these things), the most effective low-cost/short-term action is to weather strip the house, while the most effective, but more costly, longer-term action is to buy a more efficient heating system.

APA vote on interrogation

Members of the American Psychological Association (APA) have voted by 8792 to 6157 in favour of a new resolution banning members from working in locations 'where persons are held outside of, or in violation of, either International Law (e.g., the UN Convention Against Torture and the Geneva Conventions) or the US Constitution'.

The vote was triggered after more than 1 per cent of the membership signed a petition calling for the new resolution, and it comes after several years of controversy surrounding the role psychologists play in national security. Once enacted, the ban will prohibit APA members from working at sites like Guantanamo Bay, unless they are 'working directly for the persons being detained or for an independent third party working to protect human rights'.

APA President Alan Kazdin was quoted by the Associated Press as saying that the new ban 'will have teeth'. Although some local licensing boards in America do reportedly take violations of APA ethics codes into account, the opportunities for the APA to restrict

members' ability to practise is fairly limited. It is therefore not entirely clear at present what effects the ban, once enacted, will have in reality.

Under normal APA rules, the new resolution would become official policy at the organisation's next annual meeting, to be held in August 2009. However, Kazdin has acknowledged that there is some sentiment among members to make the policy effective sooner. He has therefore announced that he will be appointing an advisory group on the resolution's implementation. Two members of the Board of Directors, six members of the Council of Representatives, and one of the petition authors will be charged with clarifying the resolution and identifying actions necessary for the new ban to be implemented at a meeting in February. CJ

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OUT NOW IN BPS JOURNALS

Jon Sutton selects from this month's offerings

Despite the widely held view that psychological stress is a major cause of poor health, few studies have examined the relationship between stressful life events exposure and death. Now a study led by Anna Phillips at the University of Birmingham has tracked life events and mortality in 968 Scottish men and women who were 56 years old at baseline in 1988. The frequency of life events and the stress load they imposed were associated with all-cause mortality. However, it was the experience and impact of health-related, not health-unrelated, events that proved predictive. The authors say that 'this reinforces the need to disaggregate these two classes of exposures in studies of stress and health outcomes.' (BJHP, November)

Could health promotion campaigns that emphasise the negative health impact of activities such as binge drinking be backfiring because of 'terror management' tactics on the part of the targets? Donna Jessop and Jennifer Wade (University of Sussex) found that exposure to information about the mortality-related risks of binge drinking actually increased willingness to binge drink amongst non-binge drinkers who perceived this behaviour to benefit self-esteem. This trend was also apparent for regular binge drinkers, irrespective of their self-esteem-related beliefs about binge drinking. The effect was short-lived, however, with no evidence that mortality salience impacted on binge drinking over the following week. (BJHP, November)

Delin's 1968 study found that forming bizarre images of word pairs was a great way to remember them, but the research has been criticised on methodological grounds. Now a conceptual replication by James Worthen and Joseph Deschamps at Southeastern Louisiana University found that bizarre elaboration does indeed facilitate both free and cued recall after a substantial delay. However, this only appears to be the case when the bizarreness induces a humour response. The authors caution that the humour response can result in both facilitative and disruptive effects in memory. (BJP, November)

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Oliver Sacks case study brought to the stage

For 11 days in September, a cast of five actors at Jacksons Lane Theatre in North London recreated the musical hallucinations and seizure-induced reminiscences of Mrs O'Connor – the 88-year-old nursing home resident first described by neurologist Oliver Sacks in his book *The Man Who Mistook His Wife for a Hat*.

The play, *Reminiscence*, raised some profound questions about the interaction between our biological brains and our subjective mental lives. While the music Mrs O'Connor hears and the childhood memories she revisits are clearly brought on by seizures in her temporal lobe, questions remain over the part played by her psychological motives. Given the blandness of her nursing home existence, together with her sense of a lost childhood (she was orphaned at age five), Mrs O'Connor actually finds relief in her symptoms and turns down the offer of medication to eradicate them.

A related point of mystery highlighted in the play concerned the accuracy of Mrs O'Connor's relived experiences. In his original account of the case, Sacks believed strongly that her awoken memories were unembellished: 'her

sudden epileptic "transports" back to the world of early childhood... were undoubtedly "reminiscences", and authentic, for, as [Canadian neurologist] Penfield has shown beyond doubt, such seizures grasp and reproduce a reality – an experiential reality, and not a fantasy: actual segments of an individual's lifetime and past experience'. However, where once human memory was seen as a permanently etched record, today's experts recognise that memory is a reconstructive process prone to errors – a fact acknowledged by Sacks in his return to the case in his latest book *Musicophilia*.

The challenge of portraying Mrs O'Connor's experiences on stage was met with the use of an intricate rope-controlled set, energetically performed Balkan folk music, and inventive props (at one point, an overhead projection of jelly generated a disturbingly realistic brain on the stage backdrop). A particularly notable scene featured Mrs O'Connor aware of her doctor's real presence, but simultaneously inhabiting a memory from her childhood – a splitting of consciousness known as mental diplopia.

There's no doubt the play made for a

FROM THE RESEARCH DIGEST...

Mother's ambition breeds success

'I always knew our Karen would do well'... these words, so typical of a proud mother, have taken on profound significance following a new study by Eirini Flouri and Denise Hawkes at the Institute of Education in London. Their research shows that a mother's expectations about her daughter's future educational attainment may actually affect that child's future success at work, as well as her sense of control in life.

Flouri and Hawkes used data collected from 1520 men and 1765 women as part of the British Cohort Study, which began in 1970. When the study participants were aged 10, their mothers were asked when they thought their child would leave school – at age 16, 17 or 18.

Crucially, those female participants whose mothers predicted that they would stay in school longer, tended to earn more money at the age of 26, and to report having a greater sense of control over their lives at 30, than the female participants whose mothers predicted they would leave school early.

Writing in the *British Journal of Educational Psychology*, the researchers say that this is an important conclusion, 'given that women are particularly at risk for poor psychological and economic outcomes in adulthood'.

This association between mothers' expectations and their daughters' later occupational success and psychological confidence remained even after controlling for a raft of other relevant factors. In other words, mothers' expectations appeared to be exerting an independent effect quite separate from other influences, such as the child's ethnicity or general ability, that might have simultaneously influenced both the mothers' expectations and their daughters' outcomes.

In contrast to these findings, mothers' expectations had no association with the later occupational success or psychological confidence of sons.

This item originally appeared in the Society's free Research Digest. For more and to sign up, see www.researchdigest.org.uk/blog

lively audio-visual experience and that it raised some profound issues. But whether all this, the music, the lights, the props, amounted to a convincing portrayal of Mrs O'Connor's story remains for each audience member to decide.

One certainty was the scientific integrity of the play, thanks to the input of Society member Dr Vaughan Bell. From the authentic clicking sound of the brain scanner to the balanced handling of the philosophical issues, Bell's erudition was written all over the performance. He was also a shining ambassador for the profession at two post-show scientific forums, where he answered questions from the audience with encyclopedic eloquence.

The play was supported by the Wellcome Trust, and Bell was approached by the production team through his involvement with the medical charity's

Sciart funding scheme. 'It was an incredibly stimulating experience,' Bell told *The Psychologist*, 'not least because I was working with a company who were drawing drama and personal meaning from the scientific literature, when as a psychologist, I'm often trying to do the reverse to find how personal meaning can be understood scientifically.'

Bell said he'd definitely recommend that other psychologists get involved in similar projects if they're given the chance. 'It's fascinating seeing how people trained in a completely different school of thought make sense of the same material, which has taught me a lot in itself, and the result was a gripping way of engaging the public in ethical and scientific issues.' **CJ**

I Reminiscence, produced by Theatre DeCapo with support from the Wellcome Trust, ran from 9 to 20 September at Jacksons Lane Theatre, Highgate, London

OUT NOW IN BPS JOURNALS

Jon Sutton with more from this month's offerings

The head is a special part of our body – we never see it directly. In a series of experiments led by Ivana Bianchi (University of Macerata, Italy), people were shown to overestimate the size of their own head (in comparison with other people's heads, and other parts of their own body). This tendency is reduced when visual information is provided and when proprioception is (presumably) increased by wearing a headband. In the final study evidence emerged of head size overestimation in self-portraits as compared to portraits of others, from the 15th century onwards. (BJP, November)

Randomised trials of the effects of psychological therapies seek internal validity via homogeneous samples and standardised treatment protocols. In contrast, practice-based studies aim for clinical realism and external validity via heterogeneous samples of clients treated under routine practice conditions. Now a study led by Michael Barkham (University of Sheffield) has compared indices of treatment effects in these two types of studies. Randomised trials showed a modest advantage (averaging around 12 per cent) over practice-based studies in amount of pre-post improvement. The authors say: 'The varying estimates of the size of the difference between randomized trials and practice-based studies underline the complexities and pitfalls of making comparisons as well as of aggregating studies.' (BJCP, November)

Most parents will be well aware that family factors and processes can undermine children's sleep, and that children's sleep problems can in turn undermine family functioning. Now Brian Bell and Jay Belsky (Birkbeck, University of London) have taken a longitudinal approach and found that children's sleep got worse between the ages of 8 and 11 when, at age 8, there was no father in the home; when mothers were younger and more negatively emotional; and when mothers were less sensitive in interacting with the child and reported less closeness/more conflict. The greater the cumulative risk of these factors, the greater the likelihood of negative change in sleep. (BJDP, November)

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SHIVERS DOWN THE SPINE

Not many scientific workshops feature a lunchtime piano concert. But this was 'Music, Science and the Brain', held at the University of Plymouth to celebrate the climax of the European Commission-funded EmCAP musical cognition project (<http://emcap.iaa.upf.es>).

As the performer Lola Perrin tickled the audience's auditory neurons, I'm sure I wasn't the only one to feel a shiver dance down my spine. According to David Huron, appearing via video-link from Ohio State University, such shivers or frissons occur when the frontal cortex dampens down a fear response triggered by some feature of the music.

Specifically, it tends to be loudness, low pitch, infrasound, surprise, crescendo and scream-like sounds that trigger a frisson. However, not everyone experiences musical frissons, and women are seven times more susceptible than men. We also know that frisson-responders tend to be less adventurous and daring than non-responders.

While Perrin's performance certainly moved me, it was also a reminder of my own musical ineptitude. But despite what I might think, Lauren Stewart of Goldsmiths College said that simple tests (see www.delosis.com/listening/home.html) show that many non-musical types like me aren't tone deaf at all. We can hear a change in pitch direction and we wince when there's a clash of dissonant notes. Our problem is with musical output, not musical perception.

There are, however, a small minority who are impaired on these perceptual tests – these 'amusics' have a specific learning impairment akin to dyslexia. Many amusics actually find music unpleasant or offensive, and they seldom use it for reminiscence or for mood-altering purposes. Amusia is heritable and associated with abnormal brain functioning in the form of a disconnect between the frontal and temporal lobes. Stewart is currently studying three generations of a family in Northern Ireland (the middle generation features four normal siblings and four siblings with amusia) with the hope of identifying those genes that are involved in the condition.

Amusics aside, a message permeating the workshop was, as Stewart put it, that 'just being able to make sense of musical sounds is an incredible accomplishment'. The innateness of our musical ability was strikingly demonstrated by the research of Istvan Winkler of the Hungarian Academy of Sciences. Using EEG recordings of the brains of newborns, Winkler has been able to show that babies detect when a beat is missing from a short sequence of notes, or when there is a change in a repeating pitch interval.

'We're born with capabilities perfectly suited to extracting the main components of music,' Winkler said. It's likely these skills also play a role in language development. For example, the ability to recognise melodic contours contributes to the processing of prosody (the lyrical emphasis in speech). And the ability to extract beats probably aids conversation, allowing a person to judge when it's the right time to reply. Indeed, other research shows infants learn these skills even before they start to speak. 'Our genetic inheritance and skills are geared towards communication,' Winkler said, 'and music is an important form of communication.'

Another talk gave clues to why music videos have become such an essential part of the pop industry. Stefan Koelsch of the University of Sussex described research showing that horror music and light-hearted jingles both led to more amygdala-related activity when they were combined with a neutral video-clip. It's as though the addition of visual imagery fires up the effect of music on the imagination.

Koelsch's talk also served up some late-afternoon controversy. Specifically, the amygdala was shown to be not just the brain's 'fear centre', as it is popularly characterised, but also involved in the processing of positive emotions. Blaming Joseph LeDoux (neuroscientist and lead singer with the Amygdaloids), for the persistence of this misapprehension, an exasperated Koelsch said: 'We can't hold on to this wrong notion any longer.' CJ

Brain injury ID card scheme

The lives of people with brain injury could be made easier by their use of an identity card that highlights the communication and memory difficulties that they sometimes experience. That's according to a survey of 68 card-carrying service users by the East Kent Community Clinical Neuropsychology Service, which found that of 36 respondents, 77 per cent said they found their card to be useful.

The credit-card-sized identity card carries the NHS logo, a photo of the card holder, and includes the wording: 'The holder of this disability card has suffered an acquired brain injury and has various ongoing difficulties. Your patience and understanding would be appreciated.' The idea is that presentation of the card helps encourage patience and understanding if a person with brain injury encounters difficulties whilst carrying out routine activities in the community.

The majority of the respondents (64 per cent) said that people tended to be more

helpful after presentation of the card, although some negative reactions were also reported. Issues that need clarifying for the future include ensuring that card holders realise the card doesn't entitle them to use disabled parking, and ensuring that local GP surgeries are aware of the scheme.

Assistant psychologist Ashleigh Stewart, who conducted the research, told *The Psychologist* that he was pleased with the response rate of the survey, given the everyday difficulties that this client group have. 'For many in this study it is about increased confidence, and the card has helped encourage increased access to and participation in the local community,' Stewart said. 'We're not planning any further research at this point, but it's hoped that the East Kent brain injury database and identity card service will continue to grow and develop in line with the needs of service users, and we expect future evaluations to be carried out in the years ahead.' CJ

As easy as 1-2-3

There's a closer link between basic number sense and more formal mathematics ability than previously realised (*Nature*, tinyurl.com/52sfno). Justin Halberda at Johns Hopkins University and colleagues repeatedly tested the ability of 14-year-olds to say which of two briefly presented groups of dots was the greater. The task taps into a basic sense of number that even some animals possess. The teenagers' performance showed strong associations with their school maths performance all the way back to kindergarten. 'There are many factors that might affect a person's performance in school mathematics,' Halberda said, 'what is exciting... is that success in formal mathematics and simple math intuitions appear to be related.' Future research will test whether basic number sense can be trained. CJ

Timetabling multiple medication

While modern medicine extends people's lives, it leaves many of them, especially those who are older, juggling a mind-boggling array of prescription drugs. Each pill tends to carry its own demands about when it should be taken, in terms of meal times and bedtime, and which other drugs it mustn't be taken with simultaneously.

It's little wonder then that so many older people take their medication incorrectly, in some cases even leading to their hospitalisation.

Now Daniel Morrow and colleagues at the University of Illinois at Urbana-Champaign have tested whether a specially designed 'medtable', which allows a patient to organise their pill-taking schedule, could help avoid these mistakes.

In two experiments, dozens of participants with an average age of 69 years, formed into 'patient-provider' pairs and were given 10 to 15 minutes to devise a safe schedule for taking between two and four tablets. The first study found that using a medtable was better than having no aid at all, but no better than simply having a notepad. A revised medtable in the second experiment, with a clearer design and allowing greater flexibility in planning timings, showed benefits in terms of accuracy and efficiency compared with simply using a piece of paper.

Writing in the *Journal of Experimental Psychology: Applied* (tinyurl.com/475sgl) the researchers said: 'The medtable's organisation (explicitly mapping medications in rows onto daily event times in columns) externalised relationships between multiple information sources, reducing the need to store, manipulate, and access this information from working memory.' Future research will test the medtable with actual patients and medical practitioners. **CJ**



RESEARCH FUNDING NEWS

The latest calls for submissions from the EC Framework 7 Programme include:

- ERC Starting Grants: to support up-and-coming research leaders** who are about to establish or consolidate a research team and start to conduct independent research. Closing date: 10 December 2008
tinyurl.com/5yuh5b
- FP7-SSH-2009-C: Includes major trends in society and their implications, including research for families and family policies.** Closing date: 13 January 2009.
tinyurl.com/54fdez
- Security FP7-SEC-2009-1: Includes funding for research to better understand the rationale and drivers underlying violent radicalisation processes and how these drivers interact.** Closing date: 4 December 2008.
tinyurl.com/536f9v
- FP7-HEALTH-2009-Single Stage: Including research on the brain and related diseases, human development and ageing, specifically schizophrenia and psychosocial factors of brain disorders (2.1.1); rare neurological diseases (2.4.4); the organisation of dementia care (3.2) and child and adolescent mental health (3.3).** Closing date: 3 December 2008.
tinyurl.com/4pqkfb

The **National Institute for Health Research** is inviting applications for their Fellowship schemes. They offer four levels of fellowship:

- Research Training Fellowship** – funding to undertake a PhD.
- Post-Doctoral Fellowship** – funding for those with not more than three years postdoctoral experience.
- Career Development Fellowship** – funding for individuals who have had significant and successful postdoctoral careers, and who have not more than six years postdoctoral research experience.
- Senior Research Fellowship** – funding for outstanding individuals who are independent researchers who can demonstrate their potential to become academic and research leaders.

The closing date for applications for all Fellowships is 8 January 2008.

www.nccrd.nhs.uk/nihrfellow

The National Institutes for Health (USA) has a call for **Translating Behavioural and Social Science Discoveries into Interventions to Reduce Obesity** (U01). This seeks applications to translate findings from basic research on human behaviour into more effective clinical, community and population interventions to reduce obesity and improve obesity-related behaviours. The closing date for Letters of Intent is 16 December 2008 with the closing date for applications of 13 January 2009.

tinyurl.com/3qq96v

The British Academy, with the Royal Academy of Engineering and the Royal Society, is offering the second round of **Newton International Fellowships**. The Fellowships cover the broad range of natural and social sciences, engineering and the humanities. They offer researchers **funding to work for two years within a UK research institution**, thus establishing long-term international collaborations. They provide grants of £24,000 per annum to cover subsistence and £8000 to cover research expenses. Closing date for nominations is 15 January 2009.

www.newtonfellowships.org

The Royal Society's **International Joint Project** programme supports international collaboration by providing a **mobility grant for researchers** 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. A relationship between both parties should be established before making an application. There are four closing dates a year.

www.royalsociety.org/funding.asp?id=2344

info

**For a list of current funding opportunities go to www.bps.org.uk/funds
Funding bodies should e-mail news to Elizabeth Beech on elibee@bps.org.uk
for possible inclusion**

The latent savant?

Christian Jarrett and Jon Sutton report from the 'Talent and Autism' conference, London, 29–30 September 2008

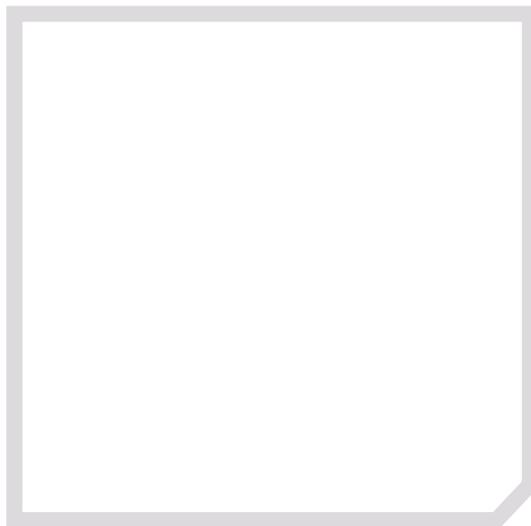
Few topics fascinate the public and psychologists alike as much as autism. Theory follows theory, each as plausible as the last, but this neurodevelopmental condition still stubbornly refuses to give up its secrets. Not least among these is how social, communicative and behavioural impairments can coexist with rare talent. 'Savant' skills are much more common in autistic spectrum condition groups than in the general population, and almost all such individuals are surprisingly good at something, even if this ability – for example, noticing minor changes in a room – can be a curse. In September, eminent names in the field gathered under the joint auspices of the Royal Society and the British Academy to examine what drives these talents, and to ask whether there could be a savant lurking inside all of us.

Francesca Happé (Institute of Psychiatry), who organised the event with Uta Frith (University College London), began proceedings by suggesting that the mindblindness aspect of autism may enhance talent. Imagine not having to spend time and neural space on all the social 'savant' skills that 'neurotypicals' manage on a daily basis. But Happé thinks that the real 'starter motor' for talent is an extraordinary eye for detail, a processing bias that allows people with autism to ignore the 'known gestalt', which among neurotypicals can inhibit tasks like realistic drawing. With new data from a twin study, Happé showed that it was the detail focus associated with repetitive behaviour and interests that was most strongly linked with parental reports of 'striking skills'.

Other speakers agreed. Michael Fitzgerald (Trinity College, Dublin) said that unlike typical accounts of creativity that focus on divergent thinking, autistic creativity was founded on a convergent style of thought – a narrow focus. Simon Baron-Cohen (University of Cambridge) spoke of how children with autism display this narrow focus in their concept learning, for example choosing to familiarise themselves with all the different types of apple rather than the prototypical concept. He pointed to strong systemising and sensory hypersensitivity as the origins of that tendency.

Evidence suggests that autism is characterised by the drive to analyse or build systems, whether that system is mechanical, natural, abstract or taxonomic. A good example of this drive was provided by Ellen Winner (Boston College), who talked of 'precocious realists' – young children who produce strikingly accurate drawings – trying to 'crack the code' of representational artists.

However, unlike Happé, who has suggested it might be time to move away from a single explanation of autism,



My Autism, Crucified! By Rozagy, which is available from www.autismart.org – a site featuring works by artists with autism that are sold to help fund autism research

Baron-Cohen feels there could be an underlying common factor to autistic talent in the molecular neurobiology of sensory hypersensitivity. Supporting this, he and his colleagues have found new evidence of superior acuity amongst people with autism across auditory, tactile, olfactory and visual senses: in the latter, to near the level of birds of prey. New brain-imaging findings presented by Laurent Mottron (MacGill University Montreal) are also consonant with this account – his team found additional activation in the extrastriate (i.e. perceptual) areas of autistic brains relative to typicals. Mottron proposes an 'enhanced perceptual functioning' model,

by which savants detect patterns and fill in missing information: important mechanisms in their talents.

A candidate for the neurobiological explanation Baron-Cohen seeks was provided by Manuel Casanova (University of Louisville), who believes autism is a 'minicolumnopathy'. Minicolumns are the smallest processing module of neurons in the cortex; vertical arrangements of cells that seem to work as a team. Casanova has found that people with autism have more neuronal minicolumns in their brains, and that they are smaller, thinner and closer together. A possible consequence, according to Casanova, is that activation suffuses to adjacent minicolumns more easily, removing the 'curtain of inhibition' that characterises neurotypical processing.

This idea linked neatly with Allan Snyder's (University of Sydney) assertion that knocking out that inhibition via the use of magnetic coils on the side of the head (TMS) can bring out the latent savant in us all. Adults receiving TMS to the left inferior temporal lobe tended to improve on numerosity and drawing tasks, and even reported fewer false memories. Snyder believes that we have evolved the ability to inhibit raw sensory input, in order to form concepts and make decisions more quickly. Creativity could stem from freeing ourselves from 'top down' interpretations and gaining access to another level of perceptual processing, in much the way people with autism seem to do.

The idea of such 'trade offs' permeated other talks during the event. For example, Eleanor Maguire (University College London) highlighted a lesser-known finding from her famous study of the hippocampal volume of London taxi drivers. She found increased grey matter in the mid-posterior part of the hippocampus of those with 'The Knowledge' when compared with bus drivers, and this correlated with experience. However, these drivers had less grey matter in the anterior part, and were much worse at acquiring new visuospatial information. Maguire said that expertise is a story of loss as well as gain, and she called for more research into the costs of talent.

Kate Plaisted Grant (University of Cambridge) has explicitly tested the idea that autistic strengths might be the result of compensation for weaknesses

elsewhere. Using Navon stimuli (a big letter made up of little letters) and other tasks, Grant's team found no evidence for superior processing at a local level at the expense of group-level processing (results that do not sit comfortably with the theory of detail focus). Instead, other research, using visual stimuli and IQ test items suggests that the mental processing of children with ASC is qualitatively different from that of typical children, even if final performance is the same. 'They have unique ways that they come to the same conclusions we do,' she said.

Other speakers discussed the output from autistic talent. Ian Hacking analysed four autobiographies by authors with autism: Temple Grandin, Donna Williams, Tito Rajarshi Mukhopadhyay, and Daniel Tammet. Hacking's was a mixed message. 'I encourage you to read these books,' he said, whilst also cautioning that there's no way these books can be seen to be representative of the typical person with ASD. He was particularly critical of the marketing of such books as offering a view from 'inside the autistic mind' as if there were only one kind. Douwe Draaisma (University of Groningen) was similarly cautious, warning of the intricate interaction between the scientific view of autism, the way it is prolifically portrayed in literature and film, and the reality of life for and with an individual with autism. The label may change the child, and the child may change the label.

Turning to art, Roger Cardinal (University of Kent) presented a slide show of 'outsider' works, 'wild, thrilling and spontaneous' pieces outside of the stereotype of any mainstream genre. For example, there's the mimetic, photo-realistic art of Stephen Wiltshire; the erotic overtures of Roy Wenzel's dominant female forms; the 'truly visionary' alternative worlds of George Widener; and the mundane stillness of James Castle's farm scenes. 'Art is a privileged medium of human contact,' Cardinal said. 'We can begin to move beyond a superficial reading of these paintings, beyond pleasure to learning something about ourselves.'

Meanwhile, in a blind comparison, Ilona Roth (Open University) had asked experts and non-experts to compare the poetry of people with autism and those without. She found no evidence for prodigious talent among the poets with autism, but there was clearly some accomplishment. The poets with autism weren't confined to a single form, nor were they confined to formalisms as one might expect (given systematising tendencies). However, the content of their

poems was narrower, tending to be about the self, and there were fewer examples of wholly original metaphor.

So what do people with autism stand to gain from their talents? Are they simply destined for life as performing seals? Patricia Howlin (King's College, London) said it was important that savant skills are developed more effectively to enhance social functioning and social inclusion. A video presentation from Darold Treffert (University of Wisconsin) seemed to confirm this: Kim Peek, the inspiration for the film *Rain Man*, said that it changed his life. 'These skills are not frivolous,' said Treffert. 'They can act as a "conduit to normalisation".'

Celebrated professor Temple Grandin (University of Colorado), who has autism, agreed. She said that 'talent has to be trained into employment' (as hers has been, designing handling facilities for livestock using an uncanny eye for minor details which can stress the animals). In particular, she argued that 'young Aspies' need to be taught job skills and the importance and pleasure that can come from doing tasks for others.

Given the constellation of impairments most people with autism have, this teaching might be easier in theory than in practice. Indeed, Pam Heaton (Goldsmiths) acknowledged that communication difficulties present special challenges for music educators. She's identified a group of children with autism who have excellent auditory analytical skills and a recognised passion for music, but who have yet to be offered formal music education. Heaton opined that the benefits – for individual and social development – make it imperative that music teachers are trained to teach children with ASD, and that music instruction is made freely available.

However, there is still debate over the extent to which such education could allow savant skills to flourish into something that would be generally acknowledged as 'genius'. Michael Fitzgerald has written about autistic traits evident in the biographies of history's 'greats' like Einstein and Newton, but Allan Snyder offered a word of caution from the late Beate Hermelin: 'There are no savant geniuses about. No savant will discover a new mathematical theorem, initiate a novel stylistic movement, or render a revealing interpretation of a Beethoven piano sonata.' Grant appeared to concur. 'Society celebrates the savant performance skills,' she said. 'But we need greater recognition of the skills like attention to detail that are so useful to industry and academia. These skills need to be nurtured too.'

VISUAL MEMORY'S MASSIVE CAPACITY

Human visual memory capacity is far larger than previously realised. That's according to Timothy Brady at MIT and colleagues who tested the ability of participants to remember 2500 mundane objects (<http://dx.doi.org/10.1073/pnas.0803390105>). The objects were shown for three seconds each during a study phase that lasted over five hours. Ten minutes later the participants were presented with a sample of the original objects. These original objects were presented in pairs with either (a) a new object from an entirely novel category; (b) a new object from a previously seen category; or (c) an object identical to one seen earlier but in a different state or pose (e.g. a side-cabinet with a door open rather than closed). Across these foil types, the participants were able to identify the object they'd seen earlier with a remarkable accuracy of 92, 88, and 87 per cent, respectively. 'These results indicate a massive capacity-memory system, in terms of both the quantity and fidelity of the visual information that can be remembered,' the researchers said. **CJ**

Try a mini version of the test at <http://cvcl.mit.edu/MM>

BEATLES MAGICAL MEMORY TOUR

The results of the Magical Memory Tour – the attempt by two psychologists to create the largest ever database of autobiographical memories – are now in. In collaboration with the British Association for the Advancement of Science, Professor Martin Conway and Dr Catriona Morrison from the University of Leeds invited people to blog about their Beatles-related memories on a specially prepared website. Nearly 3000 people contributed, from 69 nations. Among the findings, Conway and Morrison discovered to their surprise that men's memories were just as emotional as women's. In Britain, the song that provoked the most recollections was 'She Loves You' – the Beatles biggest hit and the best-selling record of the 1960s. Morrison said: 'We are so impressed with how vividly people could recall memories, sometimes from more than 40 years ago, especially when many eloquent and vivid memories appear to have been little recalled in decades. This shows the power of music in shaping and reliving sometimes long-neglected memories.' **CJ**

See www.magicalmemorytour.com

Heading in a new direction

Eleanor Pontin and Peter Kinderman on their involvement with a new mental health campaign from the BBC

Eighteen months ago the BBC asked the British Psychological Society for a psychologist to join the steering group of a new three-year mental health campaign called Headroom. The initial involvement was to advise on the aims, wisdom, scope, focus and 'ethos' of such a campaign through a 'steering group' of professionals including nurses, psychologists and psychiatrists, representatives of charities and similar stakeholders. Over time, however, this relatively hands-off approach developed as we became more involved with the Headroom team. The position developed into a consultancy role for the campaign.

Some readers may remember two programmes featuring Stephen Fry's

experiences of bipolar disorder. Those two programmes were, we understand, commissioned specifically to test the audience reaction to well-made, positive programmes which avoided scare tactics, being patronisingly sympathetic or being voyeuristic. Rather to the surprise of senior producers in the BBC, the audience reaction was not only positive, but there were clear calls for more programming along those lines. Realising that many of us experience psychological problems, or care for others, the BBC decided both to engage in the issue, and to engage from a positive well-being stance.

The emphasis on psychological well-being seems to be a continuing topic of interest in the media, and clinical psychologists are well positioned to make a positive contribution. Headroom aims to encourage people to look after their mental well-being. Learning through active participation lies at the core of the campaign. As part of the BBC's commitment to Headroom and following from their recognition of the importance of the issue, there will be more programmes across broadcast and online media focusing on mental health. This means that commissioners of programmes will show an increased interest in, and a more positive response to, programme 'pitches' in this area. Such material is also more likely to adhere to editorial guidelines that emphasise messages of 'well-being rather than illness' and focus on issues such as social inclusion, positive anti-discrimination and a continuum model of psychological problems – that is, a reduced emphasis on diagnostic categories.

Combining these new scheduled programmes on BBC TV and radio

with an interactive website, Headroom offers simple information and advice on how one's lifestyle could be affecting psychological well-being. Online videos provide information covering stress, anxiety and depression, as well as more complex mental health conditions, such as bipolar disorder and OCD. Part of the 'package' is 'MoodSpa' which concentrates on how users feel about different areas of their life. Through simple assessments, users can explore facets of their life grouped around five 'modules'. These are: mood (depression, anxiety and anger); diet and fitness; social life; self-esteem; and drink. Each module contains a straightforward assessment and suggests simple actions aimed at improving one's lifestyle around each of the domains.

So why did we become involved? As clinical and research psychologists, we could offer support, guidance and the skills that are needed when portraying information about psychological well-being and mental health issues in the media. This is important not only because there it is an opportunity to make a real contribution to improving people's knowledge of mental health and well-being, but because it is proper that such information is aligned to the profession of psychology. The growing portrayal of 'psychological' issues should be rooted within evidence-based academic and applied psychology, both for ethical responsibility and to promote the credibility of such information. For Headroom and MoodSpa, it was important that assessments, information and advice were not based on assumptions but on evidence-based practice.

On our becoming involved with Headroom, there was little information about what was expected or what would be required. Whilst it is important to be able to make an informed decision before undertaking work with the media, involvement at the early stages is perhaps the most important for informing and guiding the process and the most valuable contribution of our skills. Indeed, the receptiveness of those we were working with to our ideas and guidance was engaging, and a far cry from the frequent perception of journalists as having a different agenda from that of professional

MORE BBC OFFERINGS

A new series of *All in the Mind* starts on Radio 4 at 9pm on Tuesday 4 November (repeated on Wednesdays at 4.30pm and available again to listen to online).

Then on Wednesday 7 January a new five-part series called *State of Mind* starts, looking at the social history of mental health care from the 1950s to the present day. Presenter and psychologist Claudia Hammond tells us: 'We're making it at the moment and it's fascinating. It's so interesting to see how mental health care reflects the politics of the time. We include everything from the discovery of new drugs in the 1950s to the anti-psychiatry movement, care in the community, the rise of the clinical psychologist, the therapeutic community movement right through to the new IAPT scheme. We also hear from people who've experienced mental health care and those who've provided it – from the 1950s to the present day.'

contribute

This is the page of the Society's Press Committee, which aims to promote and discuss psychology in the media.

If you would like to comment on a recent newspaper article, TV or radio programme involving psychology, if you

have tips for others based on experiences, or if you know of a forthcoming programme or broadcast, please contact the

'Media' page coordinating editor, Ceri Parsons (Acting Chair, Press Committee), on C.Parsons@staffs.ac.uk

psychologists. Possibly this was the most rewarding and informative part of working with the BBC – being embedded within the development and processes of the campaign, from producing content for the website and meeting with producers to advising on script writing and leaflets to be given out at music festivals.

We were, however, only working in an advisory capacity. Whilst we provided an evidence base for website material and produced the website content, final editorial control was in the hands of the BBC.

This has the rather alarming consequence that any resultant material implicates the professional contributors, but isn't subject to any professional control.

Also, writing for a BBC web page is

obviously miles apart from the kind of academic writing we are used to. Reducing the complexities of evidence-based practice to merely a few words that



Alistair Campbell in 'Cracking up', part of the Headroom campaign

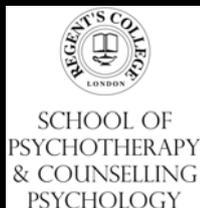
would be understood by a diverse audience in an enjoyable and user-friendly way is in no doubt very different from academic writing. Word counts were agonisingly low, so writing in such a concise and simple way was challenging.

Although working in a non-academic arena may be seen by peers as forgoing scientific rigour and professional status, working with journalists has provided us with an insight into how we can communicate in a creative and shared way with the media

– imperative for promoting the mental health agenda. This was undoubtedly helped by the fact that the Headroom campaign had, as we discussed above, a clear, transparent and wholly admirable rationale and ethos. Indeed, producers and journalists seemed to take the concept of 'BBC trust' very seriously – being at least as solicitous as we were to ensure that statements were backed by evidence rather than opinion and that any interaction with the public was honest.

From our experience, we would strongly recommend making the most of any opportunity to work with the BBC. However, working on Headroom required commitment and the ability to adopt a reactive way of working – deadlines were often extraordinarily short, and what they wanted from us often changed as the project evolved. But saying 'yes' much more than saying 'no' did lead us to be involved in the development and processes as the campaign unfolded, which really was an enjoyable and rewarding experience.

I Programmes under the Headroom banner are appearing across the BBC output. See www.bbc.co.uk/headroom



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