Issue 138 Contents

Threat of terrorism boosts people's self-esteem
Is less always more? Testing the limits of the choice paradox
Women really are better than men at face processing
BOLD-faced lie detection
Turning talking therapies into doing therapies
The empathic powers of those who can't feel pain
What's in a baby's smile?

Further information

Email the editor: christianjarrett@gmail.com
Download past Digest issues as PDFs: www.researchdigest.org.uk
Visit the Digest blog: www.researchdigest.org.uk/blog
Download a free Digest poster: http://tinyurl.com/59c63v
Threat of terrorism boosts people's self-esteem

Terrorists seek to subdue and coerce their targets, but ironically they may end up doing just the opposite. That's the implication of new research by Inbal Gurari and colleagues, who've shown that thinking about terrorism enhances people's self-esteem, as measured by an implicit test.

Fifty-two Jewish Israelis were told about recent terrorist attacks that had taken place in their country, and they were asked to indicate how many times over the last six months they'd been near to where those attacks occurred. The idea was that this would make them think about how close to danger they'd been. Participants who did this before their self-esteem was measured subsequently showed enhanced self-esteem compared with participants who had their self-esteem measured first, before thinking about the attacks.

The implicit measure of self-esteem was rather ingenious. Participants had to rate their preference for numbers and letters. Those participants displaying an abnormally high preference for letters that corresponded to their initials and to numbers corresponding to their birthday, were judged to have enhanced self-esteem.

The findings are consistent with "terror-management theory", which is the idea that reminders of our mortality leads us to seek comfort by boosting our self-esteem and seeking meaning in the world. The findings also match the way populations have been seen to respond after real-life terrorist attacks. For example, after 9/11 the American flag was flown, religious attendance rocketed and government approval ratings soared.

"The current research suggests that the goals of terrorism - to demoralise a population - may be thwarted in part by our automatic tendency to protect ourselves under mortality salience conditions," the researchers said.

Link to related Digest item: "How thoughts of death turn to joy".
Link to further related Digest item: "Baghdad teenagers show heightened sense of self in the face of war".


Author weblink: http://www.artsci.wustl.edu/~igurari/Main%20Page.html
Is less always more? Testing the limits of the choice paradox

When traditional economics claimed that consumers can only gain from having more choice, the supermarkets listened - just look at the explosion in breakfast cereal offerings! But psychology has gone and complicated things by showing that more choice can often leave people feeling less satisfied and less likely to make a purchase.

Consider the seminal paper by Iyengar and Lepper that showed 30 per cent of participants offered a choice of 6 jams bought one, compared with just 3 per cent of participants offered 24 different jams. It seems we can be paralysed by having too much choice, perhaps because feeling you've made the wrong choice is unpleasant, and the more options there are, the more likely it is that we'll choose the wrong one.

But now Benjamin Scheibehenne and colleagues have waded into the topic with the claim that the "too-much-choice effect" has in fact failed to appear in many experiments, and with the real-life observation that shops that offer more consumer choice tend to be more successful.

In a series of experiments, Scheibehenne’s team tested 598 participants who were asked to choose from among restaurants, charities and music downloads. Throughout, they varied factors that they hoped might explain why the too-much-choice effect sometimes occurs and sometimes doesn't.

Examples of these factors included the need to justify one's choice; the perceived variety of choice, as opposed to actual amount of choice; the mean attractiveness of a range of choices; cultural differences (they tested German and US students); and individual differences such as people's tendency to maximise - that is, their consistent desire to find the perfect option.

For most of the experiments, the too-much-choice effect wasn't actually observed and when it did, the only relevant factor which increased the effect was the need to justify one's choice.

"The fact that most of the variables that we tested were not sufficient to elicit choice overload suggests that the too-much-choice effect is less robust than previously thought," the researchers said.


Author weblink: http://www.scheibehenne.de/
Women really are better than men at processing faces

Often, if a film features two characters who look vaguely similar - for instance both are tall, dark-haired, middle-aged men - I will find myself confusing the two, as I struggle to form a distinct impression of each of their faces. Maybe it's to do with the fact I'm male. New research by Ryan McBayn has built on previous, more equivocal studies by showing that women are better than men at spotting a face in a display, and better at distinguishing between faces.

In an initial experiment, 35 women and 27 men had to say as fast as possible where on a screen a line drawing of a face appeared. The drawing was basic, showing only the outline of eye-brows, a nose, mouth and chin, and was embedded among other random lines. The female participants were more accurate than the men for this face-spotting task, whereas both sexes performed equally well during a control task that required them to spot trees.

A second experiment required 18 men and 18 women to look at a briefly presented target face and then say which of two subsequent faces, presented together, was the same as the initial target face.

When the conditions were easiest - with a short (half a second) interval between the target and subsequent faces, and the faces were displayed crisply - the male participants matched the performance of the female participants. However, as the task was made more difficult, either by extending the retention interval (to 3 seconds), or by reducing the visual quality of the images, the female participants began to outperform the men.

Previous research on this topic has suggested women, rather than being superior at face processing in general, might be better only at processing emotional facial expressions, or only at processing female faces. By using emotionally neutral and gender neutral faces, the present research suggests that women have a general face processing advantage, especially in more difficult viewing conditions.

McBayn's team said it was at present unclear how much sex differences in face processing are innate or learned. "Future investigations which compare face recognition performance in male and female children and adults may provide insight regarding the extent to which culture (e.g. gender role socialisation) influences gender-related differences in face perception," they said.


Author weblink: http://www.mclean.harvard.edu/about/bios/detail.php?username=rmcbain
BOLD-faced lie detection

You wouldn't know it from the claims of companies like No Lie MRI, but we're a long way off being able to use brain scans to detect reliably whether a person is lying or not. Nonetheless, cognitive psychologists are busy beavering away in the background, testing the ways that brain activity varies when people lie compared with when they tell the truth. One such study has just been published, claiming to be the first to investigate deception in the context of face recognition.

Sujeeta Bhatt and colleagues scanned the brains of 18 participants undergoing a simple task designed to simulate a police line-up. The researchers compared brain activity across three conditions: when the participants pointed out truthfully which face from three they'd seen earlier; when they lied and pointed to a new face rather than the one they'd seen earlier; and finally a condition where all the faces were new but the participants lied and pretended to have seen one of them before.

No single brain area was active when the participants lied compared with when they told the truth. However, a network of frontal and parietal regions were more active in the lying conditions. This network included the dorso- and ventro-lateral prefrontal cortices, the superior frontal gyri, and the anterior cingulate gyrus, all of which are found at the front of the brain. These areas are known to be involved in working memory, response selection and error monitoring. In the parietal lobe, the precuneus - an area known to be involved in visual imagery - also showed increased activity during lying.

"It is possible that the frontal and parietal area activation seen in the current study is a result of the complex interplay of working memory, response inhibition, sustained attention, and mental calculations necessary for our subjects to make a deceptive response," Sujeeta Bhatt and her colleagues said.

However, they further acknowledged that like other studies in this field, their findings are limited by the fact that their participants were not under anything like the kind of pressure that is normally associated with lying in real life. Also, don't forget studies like this one are looking at average group differences in lying versus truth-telling conditions, rather than studying an individual, as would presumably be required most often in real-life settings. That said, this study makes a worthy contribution to an emerging field that piece by piece will surely one day soon lead to a brain-based lie detection system - watch this space!

http://dx.doi.org/10.1016/j.bandc.2008.08.033

Author weblink: http://cfmi.georgetown.edu/members.php?id=9
Turning talking therapies into doing therapies

There's plenty of research evidence for the effectiveness of cognitive behavioural therapy (CBT), but for some reason it doesn't always seem to work so well in real-life settings. In what many psychologists will surely find a readable and helpful paper, CBT expert Glenn Waller outlines why this is often the case, providing solutions along the way.

The biggest single problem, according to Waller, is that real life clinicians often fail to deliver proper CBT with all its active ingredients. For example, one of the most important aspects of CBT is behavioural change, yet clinicians often shy away from encouraging clients to adopt the changes they need to make, especially when such changes are likely to provoke increased anxiety in the short term.

"Many clinicians make the effort to reduce or to avoid immediate patient distress (and hence their own anxiety about whether they are doing the right thing) by being 'nice' to the patient," Waller explained. "However, this short-term strategy means that we do not press for critical therapy tasks to be done, thus leading to long-term therapeutic immobility".

Waller reminds clinicians they need to work with their clients to agree on a formulation, and an agreed plan of action, with both parties recognising that this plan, while bringing long-term benefit, might well be difficult in the short term.

Clinicians also need to be assertive in bringing structure to sessions. Many clients may well arrive at therapy sessions keen to discuss immediate crises in their life - but spending each session reacting to these crises rather than working through the long-term goals of CBT will prevent any progress being made.

It's a similar story with so-called "therapy interfering" behaviours - many clinicians find themselves complicit in a client's avoidance of homework even though this is a crucial part of CBT. Clinicians should remind clients of the rationale for the home-work and how vital it is for lasting change to be achieved.

Waller says one reason clinicians will often avoid challenging their client's avoidant behaviours, especially if this is stressful for the client, is because they fear being negatively judged. "The clinician needs to know that he or she is not being judged by short-term, necessary negative transitions (e.g. increased patient anxiety)," Waller said. "Rather he or she needs to be helped in supervision to focus on the value of long-term outcomes that probably depend on those negative short-term steps."

Other advice in the paper includes recognising when therapy isn't working and bringing it to an end, and resisting switching, without a clear rationale, to so-called "third-wave" therapies, such as schema therapy, which often lack a behavioural change element.

http://dx.doi.org/10.1016/j.brat.2008.10.018

Author weblink: http://www.octc.co.uk/content.asp?PageID=446
The empathic powers of those who can't feel pain

A popular account for how we empathise with other people's physical pain involves the idea that we perform a mental simulation of their suffering, using the pain pathways of our own brain. Support for this comes from research showing that when I see you in pain, the pain areas of my own brain are pricked into activity.

Now an intriguing study by Nicolas Danziger and colleagues has tested this simulation account with the help of patients with congenital insensitivity to pain - that is, they've grown up with abnormal pain fibres, thus rendering them unable to feel physical pain. The findings may require us to rethink the way we characterise some brain areas associated with pain processing.

Thirteen patients with the inability to feel pain, plus 13 healthy controls, had their brains scanned while they viewed videos of body parts being injured and people's painful facial expressions.

Even though the patients had never felt pain themselves, the sight of other people's pain triggered activity in the insular and anterior mid-cingulate cortex of their brains - areas which have previously been associated with pain processing, and which were also activated in the brains of the controls.

"These findings challenge the frequently advanced hypothesis that activity in these regions during observed pain corresponds to the automatic engagement of the observer's own pain circuits through a mirror matching mechanism," the researchers said.

Danziger's team argue that activity in these regions may instead reflect processing of the aversive emotional significance of what the patients were witnessing. Consistent with this account are findings showing that the insular and mid-cingulate cortex are also associated with psychological pain, induced by social exclusion or grief. Perhaps the patients in this study drew on their experience of this kind of pain so as to empathise with the physical pain of others.

This fits with the fact that the control participants, but not the patients, showed more physical arousal when their insular and mid-cingulate cortex were more active, whereas the patients did not. The implication being that the control participants were simulating the pain seen in the clips in a more "embodied" way than the patients.

A further finding was that for the patients only, their scores on an empathy questionnaire correlated with the extent to which the pain-related video clips triggered activity in midline brain regions known to be involved with taking the perspective of others (e.g. the medial pre-frontal cortex). Danziger and his colleagues said this could further reflect the fact that the patients were relying on emotional perspective taking to compensate for their inability to simulate the sensory aspects of pain.

Nicolas Danziger, Isabelle Faillenot, Roland Peyron (2009). Can We Share a Pain We Never Felt? Neural Correlates of Empathy in Patients with Congenital Insensitivity to Pain. Neuron, 61 (2), 203-212

http://dx.doi.org/10.1016/j.neuron.2008.11.023

Author weblink: http://www.inserm.fr/en/home.html
What's in a baby's smile?

Watch a nine-month-old baby playing with his mother and it's already apparent that the child is a truly social being. You'll doubtless see him smiling and directing his mother's attention to share what he's interested in. But according to Meaghan Parlade and colleagues, not all babies at this age have equal social skills - subtle differences in their social behaviour can be discerned and are predictive of social and emotional adjustment eighteen months later.

One such behaviour that varies between babies is what the researchers call "anticipatory smiling" - the act of looking at an object, such as a toy, smiling, and then gazing at mum, dad, or some other social partner, with that smile still in place. By way of contrast, a "reactive smile" is where the baby looks at a toy, turns to their mum and smiles only after making eye contact. The "anticipatory smile" is deemed a more advance social skill because it reflects a motivation to engage others using positive emotion.

Parlade's team videoed babies interacting with their care-givers when they were six, eight, ten, twelve and thirty months old. What they found was evidence of a clear developmental trajectory: babies at six months who smiled more at a suddenly unresponsive parent (a test known as the "still face" procedure) also tended to employ more "anticipatory smiles" between the age of eight and twelve months, and in turn, those babies who used more "anticipatory smiles" tended to be more socially competent at thirty months, as judged by such things as their ability to play well with other children and talk about feelings. By contrast, earlier use of "reactive smiles" did not have this association with later social competence.

"These associations suggest a line of continuity between infants' emotional expressivity during early social situations and later adaptive relatedness with others," the researchers said. "Anticipatory smiles may signify an awareness of the separate attentional state and affective availability of the other."


Author weblink: http://www.pitt.edu/~icl/