

Detecting the liars

Despite years of research, legal professionals still hold false beliefs about cues to deception. **NEIL MARTIN**

ONE of the most obvious gulfs between psychological research and applied practice exists in the field of deception. While studies have consistently shown that many of the behavioural cues to deception used by police officers provide no indication of deception at all, they have highlighted other factors reliably associated with deception. A new study has compared what police officers think they know about deception with that of prosecutors and judges; the findings suggest that psychological evidence has made little impact on their beliefs.

Leif Stromwall and Par Anders Granhag (Gothenburg University) asked Swedish legal professionals to indicate which statement about deception was correct from a series of statements. Some of these referred to the gaze of a participant, or the consistency of testimony, or body

movement, or voice pitch or the reliability of verbal vs. non-verbal cues, and so on.

Most police officers believed that liars are more likely to avert their gaze during questioning, a belief held less strongly by judges and prosecutors. Police were also significantly more likely than other professionals to believe that increased body movement indicated deception. Research suggests that neither increased body movement nor gaze avoidance is a characteristic of deception.

All professionals believed that truthful statements would contain more detail than would false statements, a finding supported by research. They also believed that false statements were less consistent over time than truthful ones, although evidence suggests that both false and truthful statements are equally consistent over time. Police officers were more likely than the other groups to believe that non-verbal cues

were the greatest predictor of deception, despite research showing that lie-catchers who use verbal cues to detect deception are better at it than those who use non-verbal cues.

Are the findings due to participants' lack of knowledge about psychological research on deception or to a deliberate ignoring of empirical data and a reliance on subjective belief? The authors say: '...the professionals participating in the current study stated that they knew close to nothing about what research has to tell about deception. Hence, presumed lie-experts at least seem to know that they don't know.' Unfortunately, the authors conclude, 'this is of no comfort to those who have to enter the judicial arena'.

Stromwall, L.A. & Granhag, P.A. (2003). How to detect deception? Arresting the beliefs of police officers, prosecutors and judges. *Psychology, Crime and Law*, 9, 19–36.

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Inside haunted houses

Could magnetic field variance increase reports of hauntings? **JON SUTTON**

'HAUNTED' houses quickly get a reputation that investigators may feel becomes a self-fulfilling prophecy. But could people with the willies actually be responding to genuine environmental – albeit not paranormal – phenomena?

Richard Wiseman and colleagues from the Universities of Hertfordshire and Edinburgh questioned participants walking around Hampton Court Palace and the South Bridge Vaults. Results revealed significantly more reports of unusual experiences in areas that had a reputation for being haunted, but this effect was not related to participants' prior knowledge about the reputation of these areas. However, the location of these experiences correlated significantly with various environmental factors, including the variance of local magnetic fields and lighting levels.

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The authors conclude: 'Even subtle psychological and physiological changes occurring in a context which might suggest paranormal events (e.g. occurring to a person who believes in ghosts, occurring in a location with a haunted reputation) may lead to a person making a "paranormal" attribution to what they might otherwise interpret as an

ambiguous stimulus... Future work should attempt to tease apart these competing interpretations of the phenomena by recording the number of unusual experiences while systematically manipulating these factors (e.g. lighting levels and the variance of the local magnetic field).'

Wiseman, R., Watt, C., Stevens, P., Greening, E. & O'Keefe, C. (2003). An investigation into alleged 'hauntings'. *British Journal of Psychology*, 94, 195–212.

Sex roles fingered

The ratio of digit lengths in women predicts sex role identity. **NEIL MARTIN**

IN recent years, research has suggested a role for prenatal gonadal hormones in the development of sex roles identity in women. Some genes responsible for expression in gonads, and for the release of testosterone (amongst other hormones), are also responsible for the growth and the differentiation of toes and digit. This finding has led to the proposition that there is one aspect of finger growth that is sexually dimorphic (can differentiate between men and women). This is the ratio between the length of the second and fourth digit (the so-called 2D:4D ratio). In men, the fourth digit is longer than the second; in women, the digits tend to be of equal length. A recent study has now suggested that this ratio is related to self-reported sex role identity.

Arpad Csatho and researchers from the Universities of Pecs (Hungary) and Liverpool measured the 2D:4D ratio in healthy women undergraduates and postgraduates and used this to predict

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scores on the Bem Sex Role Inventory (BSRI), a measure of masculinity and femininity. Csatho and the group found that low 2D:4D ratio (the male characteristic) significantly predicted high scores on the masculinity scale of the BSRI and low scores on the femininity scale. Curiously, this finding only applied to the right hand. 'The present results', the authors posit, 'can give a further indication than digit lengths on the right hand could be more sensitive to early androgen exposure than those on the left.'

Csatho, A., Osvath, A., Bicsak, E., Karadi, K., Manning, J. & Kallai, J. (2003). Sex role identity related to the ratio of second to fourth digit length in women. *Biological Psychology*, 62, 147–156.

Exercise, ageing and the immune system

Exercising regularly for 12 months is associated with improved immune system functioning in an elderly sample. **NEIL MARTIN**

RESearch suggests that physical exercise is associated with a myriad psychological and physical benefits, including improved immune system function when the exercise is moderate. Some studies have even gone as far as to suggest that exercise can facilitate moral rectitude. Although a brisk walk is often recommended to those who are not as agile as they once were, many elderly individuals continue to lead a sedentary lifestyle. Given that immune system function deteriorates with age, with the consequent development of infection-related illness, and that suppressed immune system functioning is associated with an increased risk for illnesses, such as upper respiratory tract infection, might a regular regime of exercise act as a shield against the march of infection?

A group of researchers at the University of Tokyo, led by T. Akimoto, sought to find out an answer by measuring immune

system response (as indexed by the antigen secretory immunoglobulin A or SigA) on three occasions over 12 months in a group of normally sedentary elderly individuals who engaged in two bouts of 60-minute exercise a week for the duration of the study. Participants, whose age averaged 65 years, exercised in a fitness club and engaged in two types of physical activity: resistance training, which involved back, chest and inner thigh exercises; and endurance training, which involved aerobic exercise such as 'step' and ball games.

The secretion and concentration of SigA increased linearly and significantly over the three SigA measurement periods: before training, four months in and 12 months in, suggesting the benefits of this simple exercise regime to immune system functioning. The authors highlight the novel nature of their findings. 'To our knowledge,' they conclude, 'the present data are the first to show that mucosal

COPING WITH MILITARY OPERATIONS

Commitment to work reduces the effects of stress. **PAUL REDFORD**

HOW can military personnel deal with the stressors related to military operations? Thomas W. Britt (Clemson University) and Paul D. Bliese (Walter Reed Army Institute of Research) examined the moderating effect of work engagement (being committed and caring about their work) in a sample of US military personnel engaged in peacekeeping in Bosnia. They found that soldiers who reported higher engagement in their work were less likely to suffer from psychological distress. Furthermore, although lack of sleep has been found to associate positively with psychological distress, soldiers reporting higher levels of work engagement were less likely to be psychologically distressed even when they reported gaining little sleep. These findings demonstrate that work engagement can be an important focus in dealing with high-stress situations, though the mechanism through which this buffering role works remains unclear.

Britt, T.W. & Bliese, P.D. (2003). Testing the stress-buffering effect of self engagement among soldiers on a military operation. *Journal of Personality*, 71, 245–259.

■ Paul Redford is at King Alfred's College, Winchester.

immune function is enhanced in elderly subjects after 12 months of moderate exercise.' Although the study did not use a control group, or examine the possible, different effects of resistance and endurance training, the findings nonetheless suggest a relatively easy way of protecting immune system functioning in a group that is susceptible to a decline in this functioning.

Akimoto, T., Kumai, Y., Akama, T., Hayashi, E., Murakami, H., Soma, R. et al. (2003). Effects of 12 months of exercise training on salivary secretory IgA levels in elderly subjects. *British Journal of Sports Medicine*, 37, 76–79.

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