We all need a place to think

Children's special places allow them to think and develop. **MARGARET SCOTT MYERS**

THE times when parents are happy to allow their children to wander independently and seek out their own special places may be becoming rarer. But if we restrict children's movement and their ability to find their own 'bolt holes', are we depriving them of an essential component of human life? Kalevi Korpela and colleagues from Tampere, Uppsala and Helsinki Universities examined the role of restorative experience and self-regulation in the formation of place preferences by Finnish children. The research suggests the importance of a special place for children and how it can help them in their social lives.

All 55 children (aged 8–9 or 12–13) in the study were able to identify a favourite place. Interestingly, there was no bias towards either natural or residential settings, nor were there any gender or age differences in the type of places that were preferred. Activities and friends were given as the reasons for going to the place, and most children visited it four times a week. Significantly, most of the children spoke about being able to pour out their troubles, to think about personal matters and to feel free and relaxed whilst in a favourite place. Clearly, for the children, these places were important and provided a physical and social environment in which they could deal with their lives and self-identity.

PAUL BOX (REPORTDIGITAL.CO.UK)

Girls at a youth club – a special place?

For parents, however, the research highlights a major concern in that not all parents in the study knew where their children's favourite places were. Given the importance of these special places to the children, and the frequency of their visits, it is likely that children will go to these kinds of place in times of emotional difficulty – the very times that parents are likely to want to be with their children and to know that they are all right.

The lessons for parents seem to be to know that their children may want to seek out places where they can spend time in self-regulation, and that in order to find suitable places, children need opportunities to wander independently. Once found, these restorative environments are very important to the child as they provide a time and place to maintain a balance between pleasant and unpleasant experiences.

Korpela, K., Kytta, M. & Hartig, T. (in press). Restorative experience, self-regulation and children's place preferences. *Journal of Environmental Psychology*.

■ *Margaret Scott Myers is a Chartered Psychologist.*

Smiling from here to ear

Can we tell whether a smile is genuine simply from a voice? **CHRISTIAN BERESFORD JARRETT**

RESEARCH has shown that people can tell whether a smile is genuine or not by inspecting the contraction of muscles around the eyes. But can people judge the authenticity of emotion purely by listening to the rhythm (prosody) of speech?

Veronique Auberge and Marie Cathiard (Institut de la Communication Parlée, France) have investigated this issue using video samples of four French speakers who were given a range of sentences to repeat aloud, but using the repeated phonetic syllable 'ma' in the rhythm and vocal inflections of the text they were reading instead of the original words (thus masking any linguistic cues). Spontaneous amusement was provoked in the speakers by the inclusion of unexpected jokes in the range of to-be-read sentences. Afterwards, the speakers indicated in which instances of the recording they had been genuinely amused or not, and then repeated sentences four times either with a neutral expression, with a mechanical (forced) smile and neutral speech, with simulated amusement, or with a seductive smile.

These stimuli were then used in a broad range of discrimination tasks and conditions. For example, participants had to make judgements about the speakers' emotions (e.g. amused versus neutral) using either auditory information only, visual only or a combination of the two. And in a second experiment, the researchers manipulated the stimuli so that subjects could receive apparently contradictory audio and visual information (e.g. a speaker with a forced smile speaking with genuine amusement).

The authors found that even with such a 'visual' emotion as amusement, participants were often able to distinguish genuine smiles from forced ones on the basis of acoustic information alone. Remember that distortion of their vocal tracts (by the act of laughing and smiling) would have resulted from both genuine and false smiles, so these judgements must have been based on prosodic cues. Moreover, acoustic information was influential in the contradictory condition. For example, when combined with acoustic information indicating false amusement, a true smile was less likely to be judged as genuine. Also interesting was the finding with acoustic analysis that the speakers differed in the way they conveyed emotional expression in the changing prosody of their speech.

Auberge, V. & Cathiard, M. (in press). Can we hear the prosody of smile? *Speech Communication*.

You're an embarrassment

How the brain processes faux pas. **CHRISTIAN BERESFORD JARRETT**

ERUBESCENCE aside, it takes empathy to know when other people are embarrassed – that's the message from a new study by researchers at the Institute of Cognitive Neuroscience and the Institute of Neurology in London. They used functional magnetic resonance imaging to identify those parts of the brain that are active when we detect embarrassment in, or faux pas by, other people.

The researchers scanned the brains of 12 men while they listened to either garbled sentences containing unrelated words (the control trial) or three types of story. In some, the protagonists did something embarrassing such as choking at a dinner party. In others, they committed a deliberate antisocial act, such as spitting out food they didn't like. The third group of stories was innocuous and without incident. In half the stories, the listener was portrayed as being in the story – 'you were at a dinner party…' – whereas the other half involved only fictional, impersonal characters. This latter manipulation had no differential effect on brain activity.

When participants listened to stories containing a social transgression, deliberate or not, the researchers observed increased activity in the medial prefrontal and temporal cortices. These areas of the brain have previously been associated with representing others' mental states (known as 'theory of mind').

CHRIS CHAPERON

Choking at dinner – Do you feel empathy?

Interestingly, activity in these regions was greatest during the stories involving a deliberate antisocial act. The authors suggest that this is probably due to the fact that the perception of an act as deliberate necessarily requires some representation of others' intentions. By contrast, judging an event to be embarrassing may be less cognitively demanding, as it assumes an absence of intent.

Finally, hearing a tale of social transgression also led to increased activity in the lateral orbitofrontal cortex, an area previously associated with recognising aversive emotional facial expressions, like anger. This activity may allow us to judge what actions or events are likely to anger others.

The authors hope this work will further our understanding of the social behavioural problems exhibited by patients with frontal lobe lesions, as well as shedding light on the behaviour of people suffering from frontotemporal dementia, a rare pathology that often leads to social problems.

Berthoz, S., Armony, J.L., Blair, R.J.R. & Dolan, R.J. (2002). An fMRI study of intentional and unintentional (embarrassing) violations of social norms. *Brain, 125*, 1696–1708.

■ *Christian Beresford Jarrett is at the Department of Optometry and Neuroscience, UMIST.*

How macho men drive you up the wall

If you want to predict driving behaviour, look for the macho personality. **NICOLA BESCOBY**

AGGRESSIVE driving – defined as a willingness to take risks and display little respect for rules of the road – is perceived to be an extremely serious and increasing problem by transport experts and non-experts alike.

Previous research has shown that two variables, age and sex, have consistently predicted differences in aggressive driving behaviour. Men have been found to score significantly higher on measures of driving aggression than women; they are also classified as showing a more competitive approach to driving. Aggressive driving has also been found to decline with age, so it is not surprising to find that it is young men who are overrepresented in road accident figures.

A recent study by Barbara Krahe and like Fenske at the University of Potsdam, Germany, explored the role of macho-personality, driver's age and power of car as predictors of aggressive driving behaviour in men. Macho-personality patterns represent insensitive sexual attitudes towards women, the perception of violence as manly and the view of danger as exciting.

The study involved 154 male motorists who completed two subscales of the Hypermasculinity Inventory as a measure of macho-personality, and self-reports of aggressive driving behaviour based on the Driver Behaviour Questionnaire. They also provided information about their age, annual mileage, horsepower of their car and features that had guided their choice of car.

Aggressive driving was found to be significantly more common among young drivers, drivers endorsing a macho-personality and drivers owning high-performance cars. Macho men also emphasised car speed and sportiness when deciding to buy a car, whereas non-macho men were guided to a greater extent by safety considerations. This supports the claim that macho-personality captures an aspect of male gender identity that is relevant to the prediction of driving behaviour, and that individual characteristics of the driver can thus predict driving aggression.

Krahe, B. & Fenske, I. (2002). Predicting aggressive driving behaviour. The role of macho-personality, age and power of car. *Aggressive Behaviour, 28*, 21–29.

■ *Nicola Bescoby is a research assistant with Psychological Services at Ashworth Hospital, Merseyside.*

Facing up to ageing

How our memory for faces declines as we get older.

CHRISTIAN BERESFORD JARRETT

FACES are special: not only for identifying people but also for the social and emotional signals they can send. Even newborn babies recognise face-like stimuli. 'But', ask Ute Leonards (Hospitaux Universitaires de Genève, Switzerland) and his colleagues, 'does this importance grant our memory for faces an immunity to the detrimental effects of ageing?'

'Working memory' refers to the brain's short-term storage capacity for the manipulation and processing of information online, and there is a general consensus that its performance declines with age. To see whether working memory for faces was spared this age-related change, Leonards tested 50 people, aged 20–69 years, on a series of memory tasks involving either faces, doors, or letters.

The tasks involved participants being shown sequences of 90 stimuli in succession, with each stimulus presented for half a second, and with a four-and-half second gap between succeeding stimuli. Within each run of 90, the stimulus type was the same: either faces, doors or letters. There were three main possible task demands. In one condition, the task was to press a button as quickly as possible if two identical stimuli were presented consecutively. In a second, more difficult, condition, participants were to press a button if the current stimulus was the same as that shown two presentations earlier. As a control, subjects had simply to identify a digitally scrambled face embedded in a sequence of intact faces. The experimenters recorded subjects' reaction times and their accuracy, including false alarms (inappropriate button presses) and misses.

JOHN HARRIS (REPORTDIGITAL.CO.UK)

Which will be better remembered – the doors or the new faces?

Leonards found the older participants took longer to respond across all the stimulus types, and performed particularly poorly compared with younger participants in the more difficult condition. Though effects of ageing on memory performance were fairly indiscriminate, letters seemed to be afforded some protection from the significant age-related decline in performance found for the tasks involving faces and doors. So it appears humans have not evolved any special protection for memory for faces. And whilst performance on the task with faces was distinctive – false alarms and misses for faces, but not doors or letters, were usually due to a duplicate somewhere nearby in the sequence – this was not mediated by ageing.

Leonards, U., Ibanez, V. & Giannakopoulos, P. (2002). The role of stimulus type in age-related changes of visual working memory. *Experimental Brain Research, 146,* 172–183.

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Further submission details are on p.591.