

Is there a psychologist in the building?

THE space around us affects us profoundly – emotionally, behaviourally, cognitively. In Britain that space is changing at a pace not seen for a generation – over one million homes to be built by 2016, 100 new hospitals by 2010, and the rebuilding or refurbishment of every secondary school within the next 10 to 15 years. Surely psychology has something to say about all this change. But is anyone listening?

‘There is a huge amount of psychology research that is relevant, but at the moment

CHRISTIAN JARRETT on *psychology’s place in new architectural development.*

we’re talking to ourselves,’ says Chris Spencer, professor of environmental psychology at the University of Sheffield. Spencer recalls a recent talk he gave to a meeting of the Environmental Design Research Association in Vancouver, in which he called on researchers to make a greater effort to communicate their findings to architects and planners. ‘I was amazed at

the response of many of the senior researchers, who would say: ‘I’m doing my research for pure science, the industry can take it or leave it’.’

‘There’s a sense in which they’re suffering from physics envy,’ Spencer continues. ‘They want their work to be seen as hard-nosed and they’re afraid if they make it too qualitative they won’t be taken seriously. But they’re overcompensating.’

FOUNDATION FINDINGS

Key psychological findings in the area of the built environment include:

- When people with Alzheimer’s have private rooms with their own personal objects around them, they exhibit less aggression and anxiety, and fewer psychotic symptoms (Zeisel *et al.*, 2003).
- The brain development of premature babies can be disrupted by a noisy environment and/or by artificial lighting (Perlman, 2001).
- People can be encouraged to drive through neighbourhoods more carefully using psychological measures, for example by making the road appear narrow. Some experts have even recommended removing street props and signs altogether, making the passage feel more risky to drivers so they slow down (Kennedy *et al.*, 2005).
- People like their privacy, but if neighbours are too spread out and don’t cross paths they will be less likely to make friends (Festinger *et al.*, 1950).
- If their school has a barren playground, children with ADHD are less able to recover their ability to concentrate after break-time (Taylor & Kuo, 2001).
- The distinctive architecture in Little Saigon in California, USA, helps create a Vietnamese sense of place for the immigrants who live there, and provides an example of the symbolic role architecture can play in helping people identify with where they live (Mazumdar *et al.*, 2000).

Reducing crime

But there are models of how to apply environmental psychology to real problems, if you know where to look. Professor Frances Kuo (University of Illinois at Urbana-Champaign), for example. ‘Her work is superb,’ says Professor Spencer. ‘Good, hard science that she has made accessible.’

Kuo’s website (www.herl.uiuc.edu) provides pictures and plain English summaries of research conducted by her Human Environment Research Laboratory. Among these is a study using police records that found inner-city Chicago apartment buildings surrounded by more vegetation suffered 52 per cent fewer crimes than apartment blocks with little or no greenery. Frances Kuo and her co-researcher William Sullivan believe that greenery reduces crime – so long as visibility is preserved – because it reduces aggression, brings people together outdoors, and the conspicuous presence of people deters criminals. Writing in the

journal *Environment and Behaviour* Kuo and Sullivan concluded: 'The work presented here suggests the exciting possibility that in barren inner-city neighbourhoods, planting a few trees may work to inhibit crime, creating safer neighbourhoods for poor families and their children.'

Revitalising schools

'Environmental psychologists are increasingly in demand,' says David Uzzell, professor of environmental psychology at the University of Surrey. 'We're asked to contribute to the planning, design and management of many different environments, ranging from neighbourhoods, offices, schools, health, transport, traffic and leisure environments for the purpose of improving quality of life and creating a better people-environment fit.'

Uzzell recently gave a talk to MPs in a parliamentary seminar on sustainability (see September News). 'It is clear that there is a growing awareness of the contribution that environmental psychologists can make to the development of both policies and practices with regard to sustainability. We have been advising DEFRA on developing innovative approaches to encourage people to change their environmental behaviours, and we are now testing and evaluating these for several local authorities.'

Although he wasn't involved himself, Uzzell points to the rebuilding of Kingsdale School in south London as a striking example of how building design can affect human behaviour positively. Before its redesign in 2002, which included a stunning internal atrium over a playground, Kingsdale was ranked as the worst school in Southwark – now it's the top performing school in its area, and is recognised as one of the top 20 most improved schools in the country. 'The success wasn't entirely due to the architecture, but the new design inspired pupils, teachers and the local community,' Uzzell says. Indeed, Hilary Cottam, director of the Design Council's experimental RED team, won the 2005 Designer of the Year award for her leading role in the Kingsdale project. Cottam has a PhD in social sciences and drafted an educational psychologist into the multidisciplinary team that worked with architects on the school's redesign.

Uzzell has been involved in a pioneering collaboration between students

VIEW FROM THE INSIDE

Hilary Barker, a recent graduate in psychology from the University of Sheffield, now works at the strategic design consultancy DEGW. She's part of a four-person research team that contributes to the overall work of the company in helping clients use their office space more productively. Her immediate colleagues all have backgrounds in psychology or social science, but the rest of the firm consists mainly of architects and interior designers. 'What I do is pretty rare to be honest,' Barker says. 'I feel very privileged to be able to use my degree in such a way.'

Barker tells me that 'environmental psychology carried out within DEGW includes surveys, interviews and workshops to help find out what building users want from their buildings. The methodological rigour that environmental psychology encourages is important in ensuring that conclusions drawn from such investigations are well founded. The team also carries out observational studies, both quantitative and qualitative, to identify exactly how occupants are using their building. The findings often surprise clients, for example, by showing that staff use meeting rooms for quiet, individual work or showing that communication between office staff frequently occurs in places other than the "official" informal meeting areas'.

However, Barker agrees there is a communication gap between psychology and architecture. 'There's a constant debate in the organisation with the architects saying: "Look, we understand that people are important, that behaviour is important, that they both affect, and are affected by, our buildings. But unless you can give us quantitative measures and specific guidelines as to what it is that people like about buildings, or what design factors will make this building a success, then we can only continue designing according to what we think is good".'

Yet Barker says it's not always easy to give the precise recommendations that architects want. 'It is very difficult to come up with some final conclusion or number. It's relatively easy to recommend appropriate levels of lighting and temperature, but what constitutes, say, a "productive office environment" is much less clear. That's a constant challenge in this company, making psychology and architecture talk to each other.'

'In my experience, architects are absolutely on board. They would love to listen, but we're probably not saying enough that they feel they can easily apply in their work. If we could come up with these guidelines, that would really strengthen the relationship between architecture and psychology.'

on the MSc in Environmental Psychology at the University of Surrey and the Department of Architecture and Building Sciences at the University of Strathclyde. The architecture students in Scotland acted as designers while the environmental psychology students in Surrey acted as consultants, as together they worked on a community project in a run-down area of Glasgow. 'My students encouraged the architecture students to think about who their client group was, to consider issues of crowding and social cohesion, and they introduced them to psychological methodologies, for example observation and use studies, and interviewing local residents about their needs.'

The collaborative project, recognised as an example of good practice by the Centre for Education in the Built Environment, currently stands as a one-off experiment. 'It certainly got psychology involved in the

design process,' says Uzzell. 'Hopefully these trainee architects will now go away with some understanding of the psychological issues involved in design and will take into account people's needs.'

Improving hospitals

One area where the findings from environment-behaviour research have certainly influenced building is in hospital design. 'The Department of Health now has a checklist of guidelines that must be met in the design of new hospitals, and these are derived largely from the work of the behavioural scientist Professor Roger Ulrich, director of the Centre for Health Design,' Chris Spencer says. Ulrich's work has shown, for example, how the view from a patient's window can affect their recovery.

Even a hospital's layout can impact on people's health, according to Dr John

Zeisel, author of *Inquiry by Design* and founder of Hearthstone (residential care for people with Alzheimer's, designed using principles from environmental psychology). 'If people get lost in hospitals, they get stressed, which raises their cortisol levels, this lowers their immune system and means their medication works less well. You might think that way-finding round the hospital is the responsibility of the person who puts all the signs up, but the truth is that the basic layout of a building is what helps people find their way around – each building has its own internal logic, and in a "naturally-mapped" hospital, people can find their way around more easily,' he says.

Zeisel also points to the need for a better balance between private and shared rooms in hospitals. 'Falls are reduced and fewer medication errors occur' in private rooms, he says. Perhaps recognising this, the Department of Health recently announced a wave of new hospitals where up to half of the beds will be in single rooms (see tinyurl.com/fp4y6).

There's also research showing how important it is that patients have access to the outdoors and that gardens in hospitals are a major contributor to well-being. Other factors include art, which 'touches our brains in a way that wakes us up,' according to Zeisel. 'There's an almost spiritual component to the way it can contribute to our health and well-being. If I get the chance, when I'm in London I will often visit Chelsea and Westminster Hospital where there are huge murals and other art on the walls.' Indeed, there is a charity (www.paintingsinhospitals.org.uk)

dedicated to providing art to hospitals in order to 'enhance the healing environment'.

However, more generally, Zeisel shares Chris Spencer's concerns that the lessons from environmental psychology research are not getting through. 'There is certainly a gap between what we in social science know and the world of designers and architects,' says Zeisel, 'but it's not just psychologists who can feel left out – in fact many buildings are not designed by architects.' In building and planning there is a distinction to be made between the needs of the people paying for the construction and the needs of the people who are going to be using it. 'Essentially environmental psychology is all about finding out the needs of the users – those who have no voice in design', he says.

Zeisel believes that most industries, from sports to film-making, have now recognised the importance of an evidence-based approach, and that the building trade needs to formulate itself more in that vein, and to recognise that there is relevant research out there. 'It would be outrageous, silly, if the UK government went ahead with these huge building projects without learning the lessons of identity, territory and way-finding from the new towns established between 30 and 40 years ago,' he warns.

■ *Dr Christian Jarrett is staff journalist on The Psychologist. E-mail: christian@psychologywriter.org.uk.*

WEBLINKS

Commission for Architecture and the Built Environment: www.cabe.org.uk
 Environmental Design Research Association: www.edra.org
 International Association for People-Environment Studies: www.iaps-association.org
 Environmental Psychology in action, in Alzheimer's care: www.thehearth.org/Way/environment.html
 University of Surrey Environmental Psychology Research Group: tinyurl.com/nj66d
 School works: www.school-works.org
 Centre for Education in the Built Environment: www.cebe.heacademy.ac.uk
 Salford University Research Institute for Built and Human Environment: www.buhu.salford.ac.uk

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