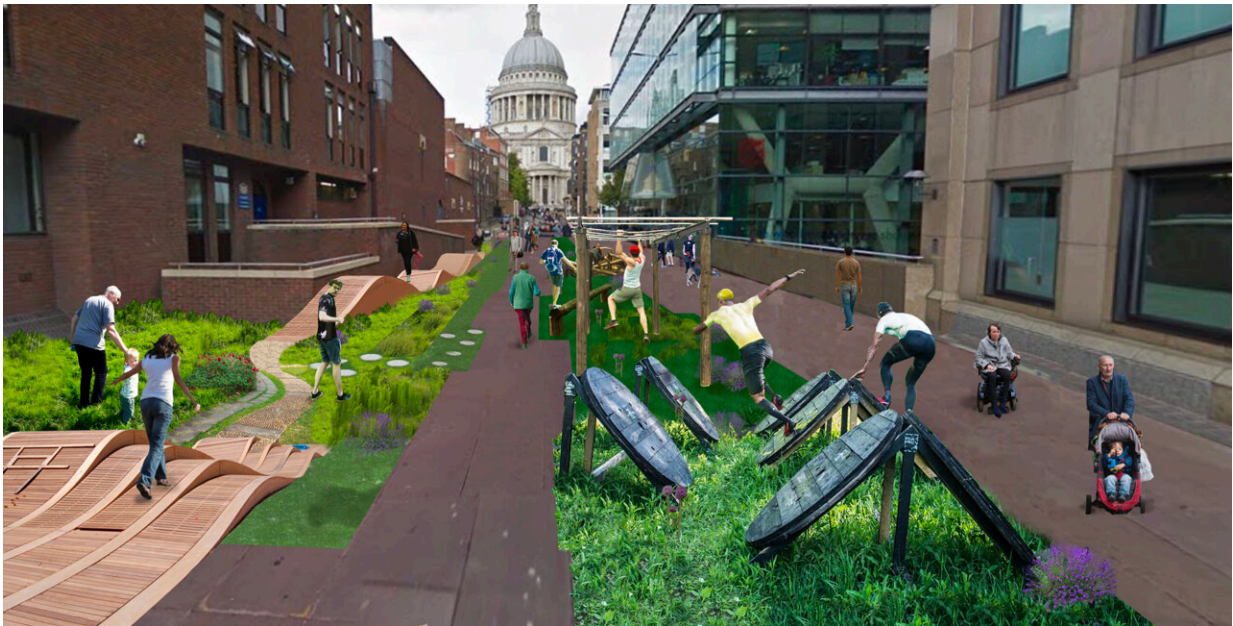


Pedestrians choose healthy obstacles over boring pavements, study finds

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Collage imagining a challenging 'Active Urbanism' route applied to Sermon Lane in London, with St Paul's Cathedral in the background. Credit: Anna Boldina

Up to 78% of walkers would take a more challenging route featuring obstacles such as balancing beams, steppingstones and high steps, research has found. The findings suggest that providing 'Active Landscape' routes in urban areas could help tackle an "inactivity pandemic" and improve health outcomes.

Millions of people in the UK are failing to meet recommended targets for [physical activity](#). Exercising "on the go" is key to changing this but while walking along a pavement is better than nothing it causes no significant increase in heart rate so only qualifies as mild exercise. Walking also fails to significantly improve balance or bone density, unless it includes jumping, balancing, and stepping down.

But would adults opt for such 'fun' routes if given the choice?

A University of Cambridge-led study published today in the journal *Landscape Research* suggests that with the right design, most would.

Previous research on 'healthy [route](#) choices' has focused on people's likelihood of walking instead of using transport. But this study examined how likely people are to pick a more challenging route over a conventional one and which design characteristics influenced their choices.

Lead author, Anna Boldina, from the University of Cambridge's Department of Architecture, said: "Even when the increase in level and extent of activity level is modest, when millions of people are using cityscapes every day, those differences can have a major positive impact on [public health](#)."

"Our findings show that pedestrians can be nudged into a wider range of physical activities through minor changes to the urban landscape. We want to help [policy makers](#) and designers to make modifications that will improve physical health and well-being."

Boldina began this research after moving from Coimbra in Portugal—where she found herself climbing hills and ancient walls—to London, which she found far less physically challenging.

Working with Dr. Paul Hanel from the Department of Psychology at the University of Essex, and Prof. Koen Steemers from Cambridge, Boldina invited almost 600 UK residents to compare photorealistic images of challenging routes—variously incorporating steppingstones, balancing beams, and high steps—with conventional pavements.

Participants were shown images of challenging and conventional tarmac routes and asked which route they would choose. The researchers tested out a range of encouraging / discouraging parameters in different scenarios, including crossing water, shortcuts, unusual sculptures and the presence / absence of a handrail and other people. Participants were asked to score how challenging they thought the route would be from 1 (as easy as walking on level tarmac) to 7 (I would not be able to do it).

Eighty per cent of the study's participants opted for a challenging route in at least one of the scenarios, depending on perceived level of difficulty and design characteristics. Where a challenging option was shorter than a conventional route, this increased the likelihood of being chosen by 10%. The presence of handrails achieved a 12% rise.

Importance for health

The WHO and NHS recommend at least 150 minutes of 'moderate' or 75 minutes of 'vigorous' activity spread over a week, including a variety of activities aimed at enhancing bones, muscles, and agility to stay healthy. In addition, adults over 65 are advised to perform strength, flexibility, and balance exercises.

Boldina said: "The human body is a very complex machine that needs a lot of things to keep working effectively. Cycling and swimming are great for your heart and for your leg muscles but do very little for your bone density."

"To improve cardiovascular health, bone density and balance all at once, we need to add a wider range of exercises into our routine daily walks."

Psychology of choice

Co-author Dr. Paul Hanel said: "Children don't need much encouragement to try out a balance beam but we wanted to see how adults would respond, and then identify design modifications which made them more likely to choose a challenging route."

"We found that while embarrassment, anxiety, caution and peer pressure can put some adults off, the vast majority of people can be persuaded to take a more challenging route by paying careful attention to design, safety, difficulty level, location and signage."

The proportion of participants who were willing to pick a more challenging route varied from 14% for a particular [balance beam](#) route to 78% for a route involving wide, low stepping stones and a log with a handrail. The least intimidating routes were found to be those with wide, steady-looking balancing beams and wide steppingstones, especially with the presence of handrails.

The researchers suggest that routes that incorporate more difficult challenges, such as obstacle courses and narrow balancing beams, should be placed in areas more likely to be frequented by younger users.

The participants expressed a range of reasons for picking challenging routes. Unsurprisingly, the study found that challenging routes which also acted as short cuts appealed. Up to 55% of participants chose such routes. The researchers also found that the design of pavements, lighting and flowerbeds, as well as signage helped to nudge participants to choose more challenging routes. Many participants (40%) said the sight of other people taking a challenging route encouraged them to do the same.

The participants who picked conventional routes often had concerns about safety but the introduction of safety measures, such as handrails, increased uptake of some routes. Handrails next to one steppingstones route increased uptake by 12%.

To test whether tendency to choose challenging routes was linked to demographic and personality factors, participants were asked to answer questions about their age, gender, habits, health, occupation, and personality traits (such as sensation seeking or general anxiety).

The researchers found that people of all levels of activity are equally likely to pick a challenging route. But for the most difficult routes, participants who regularly engaged in strength and balancing exercises were more likely to choose them.

Older participants were as supportive of the concept as younger ones but were less likely to opt for the more challenging routes for themselves. Nevertheless, across all age groups, only a small percentage of participants said they would avoid adventurous options completely.

The study applies the idea of "Choice Architecture" (making good choices easier and less beneficial choices harder) plus "Fun theory", a strategy whereby physical activity is made more exciting; as well as some of the key principles of persuasion: social proof, liking, authority, and consistency.

Future work

The researchers hope to run experiments in physical test sites to see how intentions convert into behavior, and to measure how changes in habits improve health. In the meantime, Dr. Boldina continues to present her findings to policy makers.

Critics might question the affordability and cost effectiveness of introducing 'Active landscape routes' in the current economic environment.

In response, the researchers argue that installing stepping stones in a turfed area can be cheaper than laying and maintaining conventional tarmac pavements. They also point out that these measures could save governments far greater sums by reducing demand for health care related to lack of exercise.

More information: Active Landscape and Choice Architecture: Encouraging the use of challenging city routes for fitness, *Landscape Research* (2022). [DOI: 10.1080/01426397.2022.2142204](https://doi.org/10.1080/01426397.2022.2142204)

Provided by University of Cambridge

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