

I.F. Briefing 8

Local Neighbourhoods – What Difference Do They Make?

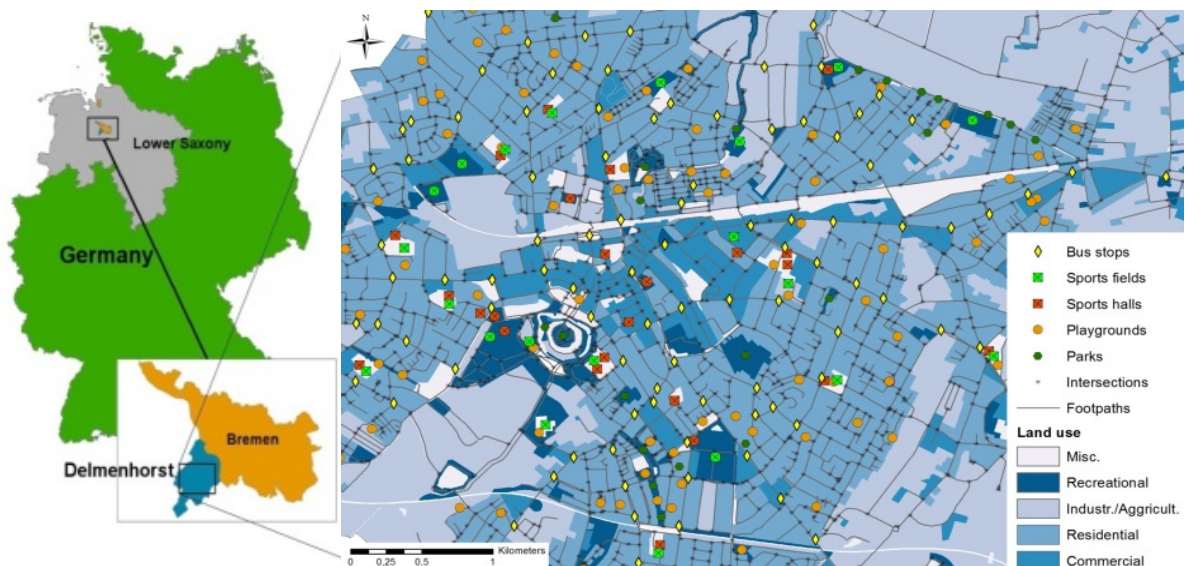
Christoph Buck (BIPS – Bremen, Germany)
buck@leibniz-bips.de

Insufficient physical activity is responsible for up to 10% of non-communicable diseases such as cardiovascular disease, diabetes, and obesity. Lack of exercise has also been found to be an important risk factor for cancer and cardiovascular mortality. However, interventions focusing on individual behavioural change show only small effects, are costly, and rarely lead participants to make lasting changes in their behaviour. In addition, such interventions attract people who are already interested in lifestyle changes, leading to increased health inequalities.¹

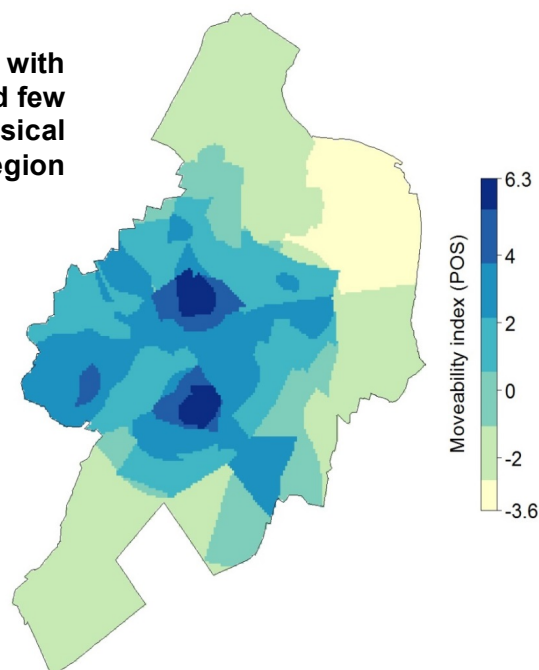
Public health researchers have become increasingly interested in environmental factors that can promote – or hinder – healthier behaviour in a broader population. For example, attractive parks and useable cycle paths encourage active travel or recreational physical activity. This has given rise to the concept of “walkability,” which has three main components: residential density, street connectivity, and destination diversity.² In other words, densely populated areas allow people to pursue many different everyday purposes – such as employment, shopping, entertainment, etc. by walking or cycling.³ Measuring these dimensions tells us the walkability of an urban neighbourhood. We know that more walkable neighbourhoods support physical activity among adults. But in children the picture is less clear.

In the I.Family study, we evaluated the walkability of local neighbourhoods in study areas of Germany, Italy and Sweden. We also extended the walkability concept to factor in public open spaces such as parks and playgrounds that provide opportunities for active leisure, thus creating the broader concept of “moveability.” We looked at how moveability affects physical activity levels in children and adolescents, using accelerometers (small devices worn on the body that measure activity).⁴

Example of spatial data collected to evaluate moveability in one I.Family study region in Germany



Moveability index depicting areas with many opportunities (blue) and few opportunities (green) for physical activity in one German study region



Results

For children, physical activity is encouraged by the availability of public open spaces within densely residential areas. But the effect is not automatic. If parents feel that the neighbourhood is not safe for children, they tend to restrict children's outdoor activity. This is especially true if their child is female.⁵

For adolescents, good walking and cycling facilities as well as diverse destinations matter, while public open spaces become less important. In addition, we know that physical activity declines sharply in the transition from childhood to adolescence. Our research showed that urban moveability counteracts this decrease in physical activity, but with some differences between boys and girls. Connectivity and availability of walking and cycling facilities as well as diverse destinations seem to promote an active lifestyle in girls. For boys, public open spaces are still an important factor to support adequate physical activity.

Conclusion

Well-designed public open spaces and safe and well-connected facilities for walking and cycling are key to increasing physical activity. The moveability concept can thus be used to identify poorly designed neighbourhoods and opportunities to improve public health. Changing the built environment in deprived areas can play a special role in reducing health inequalities. Urban planning and public health need to collaborate to identify suitable interventions targeting vulnerable populations.

Besides their effects on physical activity, 'walkability' and 'moveability' are also important for emotional wellbeing, social cohesion and social support. Beyond health and physical fitness, policy-makers and urban planners have many reasons to pay attention to these factors.

¹ Sallis et al. 2006. An Ecological Approach to Creating Active Living Communities. *Annual Review of Public Health* 27: 297-322.

² Sallis. 2009. Measuring Physical Activity Environments: A Brief History. *American Journal of Preventive Medicine* 36: S86-S92.

³ Freeman et al. 2013. Neighborhood Walkability and Active Travel (Walking and Cycling) in New York City. *Journal of Urban Health* 90: 575-585.

⁴ Buck et al. 2011. Development and Application of a Moveability Index to Quantify Possibilities for Physical Activity in the Built Environment of Children. *Health & Place* 17: 1191-1201.

⁵ Buck et al. 2015. Objective Measures of the Built Environment and Physical Activity in Children: From Walkability to Moveability. *Journal of Urban Health* 92: 24-38.