

protection rights; if our original processing was based on consent provided when the individual was a child, then we comply with requests for erasure whenever we can; and we design our processes so that, as far as possible, it is as easy for a child to get their personal data erased as it was for them to provide these data in the first place.

We have a strong belief, built into the ethno-methodological design of our own research with children and young people, that children should be provided with information about research such that they can indicate assent or dissent to participate. Our philosophical approach aligns with the Nuffield Council on Bioethics and their guidance on ethical issues regarding children and clinical research.⁶ They recommend that as soon as children have the ability to be involved in research, we should directly involve them by using innovative and creative approaches suitable for different age groups such as drawings, pictures, and videos; we have successfully implemented such creative approaches with a range of children including some as young as 5 years of age.⁷⁻⁹ A further exciting initiative is the Trials Engagement in Children and Adolescents study, a study within a trial, seeking to understand whether multimedia information, using video and animation, has the potential to better inform children. The digital age, although presenting challenges with data privacy, offers researchers far more creative approaches than the traditional patient information leaflets that might prove to be more appealing to children and could help us to explain our research in a way that it is more easily understood by anyone involved.⁸

In conclusion, we offer five take-home messages: 1) children have the same rights as do adults over their personal data; 2) their legal data rights should be explained in a language they understand; 3) safeguarding the personal data of children and young people is highly prominent throughout GDPR principles; 4) children and

young people should have knowledge of where their data exists, where it has been used, and control over their own data, no matter what their age; and 5) ongoing researcher commitment to personal data, transparency, and clarity is essential. Now it is incumbent on all researchers working with children and young people to make sure that we implement GDPR in such a way that ensures children's data protection rights are central to the planning, design, and dissemination of our studies.

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For more on the **Trials Engagement in Children and Adolescents study** see <https://www.york.ac.uk/healthsciences/research/health-policy/research/decision-making-projects/trials-engagement-in-children/>

Adolescent health and wellbeing: advocating a role for urban design

In *The Lancet Commission* on adolescent health and wellbeing¹, George C Patton and colleagues give a comprehensive overview of the unprecedented global health challenges facing young people aged

between 10 and 24 years. These health challenges demand more action and investment to protect the future of our young people and our society. The authors emphasise intersectoral and multicomponent actions





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combining “structural, media, community, online, and school-based elements.”¹ But missing from the current debate is a role for urban design. We advocate that more attention be paid to urbanism that supports adolescent health and wellbeing. Although a role for a new urbanism in supporting public health outcomes is gaining traction, including in *The Lancet Series on urban design, transport, and health*, this discussion has inadequate focus on adolescents. With one in five young people (aged 6–19 years) in the USA now obese,² and projections predicting that obesity rates in the USA will rise to more than 45% by 2030,³ it is time to act and maximise the potential of urban design to improve adolescent health and wellbeing.

The concept of an active city, for example, supports health-promoting transport systems and safe communities, and enables more walking, cycling, and public transport use. This concept is particularly pertinent to adolescent health. Urban design elements that are associated with overall improvements to levels of physical activity and health outcomes in adolescents (including lower obesity risk) include residential density, mixed land use, street connectivity, walkability of the neighbourhood and school environs, street aesthetics, availability of safe crossings, and nearby green spaces.^{4,5} A systematic review⁶ of interventions designed to promote active living in adolescents found that the most effective interventions were road safety measures (eg, reducing traffic speed or traffic calming) and providing safe routes to school (eg, accessible pavements). Adolescent health is also affected by the opportunities that their local neighbourhood and surroundings offer. Easy access to recreational facilities (eg, football

pitches and basketball courts) and neighbourhood parks make it easier for adolescents to be active and to socialise with their peers. But children in deprived areas are nine times less likely to have access to green spaces and places to play than children in more affluent areas,⁷ and 32% of 16–24-year-olds in a UK survey reported that they never visited a local park.⁸ Well designed urban communities offer a variety of places for young people to meet friends, talk, play formally and informally, become engaged in the community, roam freely, explore, and be active. Investing in urban design to also support adolescent mental health should be a stronger priority, given the growing need for youth mental health-care provision.⁹

In an article published in 2017,¹⁰ we set out an urban health model and conceptual framework for researching and steering efforts to support adolescent health and wellbeing through good urban design. The resulting model is based on Brian Little’s socio-ecological model of wellbeing,¹¹ called personal project analysis. This framework explores youth wellbeing from the context of a young person’s needs, lifestyles, and aspirations through the lens of personal goals and integrates the social and physical context in which adolescents manage their goals. This approach has been applied to identify restorative urban niches that support emotional wellbeing in adolescents.¹² We believe that exploring the interaction between age-specific adolescent goals and urban landscape affordances—including physical, social, digital, and emotional affordances—offers a new approach to better understand how we can design our cities for adolescent health.

We argue that more adolescent-responsive urban design processes should be open to explore new technologies to forge mobility in, and engagement with, the city. The concept of a playable city, for example, affords opportunities for adolescents to interact with the city through smartphones, thereby promoting physical activity, social interactions, and meeting adolescent needs for adventure and excitement through gaming in a real-world context. Early studies¹³ indicate that gaming can help to increase moderate and vigorous physical activity by up to 20% as part of an active travel-to-school programme and can spur learning about what places are good for health, using smartphone technologies

that provide health data feedback (eg, on physical activity levels and heart rate) in relation to the built environment while gaming.¹⁴

Furthermore, we advocate a role for the so-called green city in supporting adolescent health and emotional wellbeing. As well as promoting physical activity, the local outdoors provide restorative niches that support psychological wellbeing, with adolescents capitalising on any available nature space to help support mood regulation (eg, by building private dens and tree-houses), including local parks and urban fringe woodland.¹² The new trend towards greening vacant land in deprived US cities, such as Detroit and Cleveland, offers long-term strategies for investing in neighbourhood renewal and can also sustain health and wellbeing. Young people can be at the core of these urban regeneration processes by re-appropriating underused open green spaces. Examples showing how urban designers and young people cocreate alternative usages include temporary cinemas under a flyover or an outdoor gallery space, as part of joint efforts to draw attention to active recreation in urban green infrastructure. It is important to welcome young people's activities in the heart of the city, ie, socialising in lively open spaces connected to cultural spaces or residential areas, by moderating conflicting interests and regulations (eg, for noise). It is from an increased sense of belonging and ownership that a more active use of open green spaces can develop.

Although there appears to be an overall agreement about the importance of social determinants to adolescent health, we advocate that urban design warrants far more attention than it has received, including an important role for public open space, neighbourhood park access, and urban electronic

games. Understanding health and wellbeing from the perspective of what matters to adolescents—combined with cocreation in urban design processes—is crucial to these new approaches.

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