

## COMMENT

### Toward an optimal approach for health and transportation

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Pretty (2006) offered a valuable perspective on the psychological benefits of exercise in green environments. This makes intuitive sense, for who among us does not recognize the personal benefits we receive from being active and surrounded by nature's beauty? The quantitative support that Pretty (2006) offered confirms this anecdotal experience, and provides an extremely valuable contribution to the debate.

That said, Pretty (2006) raised a number of issues over which we do not agree completely. It is true that some current driving cannot easily be replaced by exercise, as I acknowledged in my article (Higgins 2005), but the amount and extent that exercise can replace car travel depends on choices made by individuals, urban planners and other policy makers both now and in the future. How often we go to the market and whether trips require a car represent choices of how we live. Many trips to the market, as currently taken, can only be accomplished by car, but that has not always been true and need not be true in the future. Similarly, urban living patterns and urban planning can and will change, especially in those regions currently making development choices.

Pretty (2006) was also correct about the existence of older recommendations for 30 minutes of exercise a day, as I previously stated (Higgins 2005), but I emphasized the more recent recommendation for one hour of moderate exercise every day (Institutes of Medicine of the National Academies 2002). Pretty (2006) also took issue with the exercise rate I used for cycling of  $20 \text{ km h}^{-1}$  (Higgins 2005). It is true that the speed a cyclist travels varies with everything from the type of bike used, terrain, the cyclist, weather conditions and the load the cyclist is carrying. For some  $10 \text{ km h}^{-1}$  would be too fast, but for others  $30 \text{ km h}^{-1}$  would be too slow. On average,  $20 \text{ km h}^{-1}$  is a modest and reasonable assumption.

Pretty (2006) also raised the point that there may be health costs of exercise, such as increased exposure to air pollution. That is an important consideration, but it is more complex and difficult to predict than it first appears. Indeed, the opposite may also be true, because widespread reductions in car travel

would reduce air pollution. The resulting improvement in air quality would provide health benefits to those who exercise and to others in society more broadly, some of whom are more sensitive to air pollution. A similar, two-sided argument holds for the risks of walking or biking around cars. Cars make these activities more dangerous, but as more people get out of their cars then the risks go down. Of course, driving itself can be a dangerous activity.

Finally, it is critical to recognize that the benefits that we each identify would be mutually exclusive if getting to green places required driving or if using exercise as a means of transportation required living in concrete urban environments. Thoughtful urban planning can escape this trade-off, however, and ensure that our communities are green places that rely on walking and biking. Striving for the combined health and environmental benefits that would result will lead toward a more optimal approach for both transportation and health.

#### References

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