

Active commuting linked to lower risks of mental and physical ill health: Strongest benefits seen for cyclists

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Commuters who cycle or walk to and from work or study may have lower risks of mental and physical ill health than those who don't rely on these options, finds a large long term study published in the open access journal *BMJ Public Health*.

While health benefits were observed for both types of active commuting, the strongest health benefits were seen for cyclists among whom the risk of death from any cause was 47% lower, the findings show.

Active travel is considered to be one of the most practical and sustainable ways to increase daily physical activity, and there is mounting evidence in favor of its associated health benefits, note the researchers.

But the existing body of evidence has been hampered by short monitoring periods, narrow age groups, and limited [health outcomes](#), they add.

In a bid to redress these shortcomings, the researchers drew on nationally representative data from the Scottish Longitudinal Study (SLS), which is based on 5% of the Scottish population derived from Census returns in 1991, 2001, and 2011.

The researchers focused on 16–74 year olds in 2001 who traveled to work or study in the UK. After exclusions for incomplete data, the final analysis was based on 82,297 people.

Census respondents were asked to select which mode of travel they used for the longest part, by distance, of their usual commute. Active travel was defined as either walking or cycling. All other commuting methods were defined as "inactive."

The responses were linked to national [hospital](#) admissions for all causes, cardiovascular disease, cancer, and road traffic collisions; deaths from all of these; and prescriptions for mental health issues (sedatives, anti-anxiety drugs, and antidepressants) from 2001 to 2018 inclusive.

Various potentially influential factors were taken into consideration.

These included age, sex, pre-existing health conditions, as well as socioeconomic factors and distance to work/study.

Between 2001 and 2018, 4,276 participants died (just over 5% of the [study group](#)), almost half of whom died of cancer (2023; 2.5%). Some 52,804 (just over 64%) were admitted to hospital, 9,663 (12%) of them for cardiovascular disease, 5,939 (just over 7%) for cancer, and 2,668 (just over 3%) after a road traffic collision.

In all, 31,666 study participants (38.5%) were prescribed a drug associated with cardiovascular disease between 2009 and 2018, and 33,771 (41%) were prescribed a drug for poor mental health over the same period.

Compared with inactive commuters, those who walked to work/study were more likely to be female, younger, work shifts, commute shorter distances, and live in a city. They were also less likely to have dependent children and tended to have lower household income and educational attainment.

Similarly, cyclist commuters were more likely to be male, younger, shift workers and live in a city, and they were less likely to be homeowners or caregivers.

After accounting for potentially influential factors, active commuting was associated with lower risks of death and mental and physical ill health compared with 'inactive' commuting.

Specifically, commuting by bike was associated with a 47% lower risk of death, a 10% lower risk of any hospital admission, and a 24% lower risk of hospital admission for cardiovascular disease.

It was also associated with a 30% lower risk of being prescribed a drug

to treat cardiovascular disease, a 51% lower risk of dying from cancer, and a 24% lower risk of being admitted to hospital for the disease, as well as a 20% lower risk of being prescribed drugs for [mental health problems](#).

But cyclist commuters were twice as likely as "inactive" commuters to be admitted to hospital after a road traffic collision.

Pedestrian commuting was associated with an 11% lower risk of hospital admission for any cause and a 10% lower risk of a hospital admission for cardiovascular [disease](#). It was also associated with, respectively, 10% and 7% lower risks of being prescribed drugs to treat [cardiovascular disease](#) and [mental health issues](#).

This is an observational study, and as such, no firm conclusions can be drawn about causal factors. And the researchers acknowledge various limitations to their research. For example, the census responses reflect just one point in time and didn't include general physical activity levels. And prescription data were only available from 2009 onward.

The census data didn't capture multimodal trips either, resulting in potential overlap between active and 'inactive' commuters, they point out.

But they nevertheless conclude, "This study strengthens the evidence that active commuting has population-level health benefits and can contribute to reduced morbidity and mortality. That cyclist and pedestrian commuting is associated with lower risks of being prescribed medication for poor mental health is an important finding.

"These findings provide direct evidence of the [health benefits](#) of active commuting in a Scottish context, supporting current policy. This study has wider global relevance to efforts to reduce carbon emissions and to

shift to more active and sustainable travel modes."

But they caution, "Our finding that cyclist commuters have twice the risk of being a road traffic casualty compared with non-active commuters reinforces the need for safer cycling infrastructure."

More information: Health benefits of pedestrian and cyclist commuting: evidence from the Scottish Longitudinal Study, *BMJ Public Health* (2024). [DOI: 10.1136/bmjph-2024-001295](https://doi.org/10.1136/bmjph-2024-001295)

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