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A24 Electrically-assisted bikes: understanding the health potential

Sally Cairns* **, Frauke Behrendt***, David Raffo****, Clare Harmer*

* TRL, UK

** UCL, UK

*** University of Brighton, UK

**** David Raffo Associates

Abstract

Background: Electrically-assisted bikes (shortened here to ‘e-bikes’), which require the user to pedal but have a motor that the user can choose to use to reduce the effort required, are becoming increasingly popular. There are estimated to be over a million such bikes in use across Europe. Various studies suggest the effort required to use them constitutes at least ‘moderate’ physical activity, with potential health benefits for those who increase their physical activity by using them.

Methods: This research included survey work with two major employers in Brighton, and two years of monitored trials, where 80 employees were loaned an e-bike (with an associated support package). Trial participants were advised to use the bikes as much, or as little, as they wished.

Results: Initial workplace surveys revealed high levels of interest, with about 40% of those replying being keen to participate in the trials. This included interest from groups which are traditionally less likely to cycle, as assessed using Chi-square tests of independence on both our evidence and National Travel Survey data. Nearly half the respondents who classified themselves as doing less than 30 min of physical activity (moderate or vigorous) per week asked to be part of the trial. Of all respondents who asked to be part of the trial, 42% had a BMI indicating that they were overweight or obese.

For the 80 participants who borrowed bikes, three-quarters chose to use them at least once a week during their 6-8 week trial period. Across all participants, the average mileage cycled was 15-20 miles per week; car mileage was reduced by 20%; and 59% reported that their overall physical activity increased (including 29 of the 43 participants who reported doing less than 2.5 h weekly physical activity before the trial). At the end of the trial, 73% said they would cycle to work at least one day a week ‘if they had an e-bike available to use’.

Conclusions: The study indicated that e-bikes can stimulate interest in cycling amongst people who are typically less likely to do so. Furthermore, when an e-bike is made available, many people choose to use it, and it has substantial effects on their travel behaviour. As such, these bikes could help to encourage active travel amongst groups who traditionally undertake less exercise, or who feel unable to use a conventional bike, either due to personal physical limitations, or because of the geography of where they live.

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