Studies on Bikeability in a Metropolitan Area Using the Active Commuting Route Environment Scale (ACRES)

av

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Akademisk avhandling

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Abstract


Background: The Active Commuting Route Environment Scale (ACRES) was developed to study active commuters’ perceptions of their route environments. The overall aims were to assess the measuring properties of the ACRES and study active bicycle commuters’ perceptions of their commuting route environments. Methods: Advertisement- and street-recruited bicycle commuters from Greater Stockholm, Sweden, responded to the ACRES. Expected differences between inner urban and suburban route environments were used to assess criterion-related validity, together with ratings from an assembled expert panel as well as existing objective measures. Reliability was assessed as test-retest reproducibility. Comparisons of ratings between advertisement- and street-recruited participants were used for assessments of representativity. Ratings of inner urban and suburban route environments were used to evaluate commuting route environment profiles. Simultaneous multiple linear regression analyses were used to assess the relation between the outcome variable: whether the route environment hinders or stimulates bicycle-commuting and environmental predictors, such as levels of exhaust fumes, speeds of traffic and greenery, in inner urban areas. Results: The ACRES was characterized by considerable criterion-related validity and reasonable test-retest reproducibility. There was a good correspondence between the advertisement- and street-recruited participants’ ratings. Distinct differences in commuting route environment profiles between the inner urban and suburban areas were noted. Suburban route environments were rated as safer and more stimulating for bicycle-commuting. Beautiful, green and safe route environments seem to be, independently of each other, stimulating factors for bicycle-commuting in inner urban areas. On the other hand, high levels of exhaust fumes and traffic congestion, as well as low ‘directness’ of the route, seem to be hindering factors. Conclusions: The ACRES is useful for assessing bicyclists’ perceptions of their route environments. A number of environmental factors related to the route appear to be stimulating or hindering for bicycle commuting. The overall results demonstrate a complex research area at the beginning of exploration.

Keywords: active transport, bicycle commuting, bikeability, multiple linear regression analysis, perception, reliability, route environment, validity.

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