

S03-1: Leveraging Citizen Science to Improve Exercise-Friendliness in a Low SES Neighbourhood: A First-Generation Study of the Co-Development of Walking Routes in The Netherlands

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Purpose: The purpose of this project was to improve exercise-friendliness of a low SES neighbourhood in the Netherlands. This neighbourhood was chosen because it scored below average on important health parameters like self-efficacy, resilience, and quality of life.

Methods: We followed the *Our Voice* citizen science method, involving six steps of design thinking. To gather data on environmental attributes contributing to or impeding an exercise-friendly neighbourhood, we used the *Discovery Tool* app to conduct research walks, and simultaneously interviewed citizen scientists. All gathered data were analysed by citizen scientists with the goal of defining common themes. Based on these themes, citizen scientists developed ideas to improve the neighbourhood, regarding exercise opportunities.

After prioritising one of the ideas, a survey was distributed to gather information on relevant prerequisites and a prototype was developed. The prototype was extensively tested and refined by citizen scientists until the final design was ready. At this stage government officials took over responsibility and implemented the final design. After project conclusion, we interviewed citizen scientists about their sense of engagement and learnings throughout the project.

Results: Twenty-two citizen scientists participated in the research walks, leading to 118 photos of relevant neighbourhood features. Analysis of these photos led to the definition of five common themes: nature, grey features, sports & play, exercise/recreational routes, and maintenance. Based on the themes, ten ideas were formulated, out of which walking routes were prioritised. Citizen scientists developed a walking route passing all art objects in the neighbourhood. Prerequisites (e.g. length, accessibility, safety, and signage) were taken into account. Prototype testing led to refinement of the route, inclusion of more art objects, and higher engagement of the citizen scientists. In the end, the neighbourhood walking route was realised. Citizen scientists indicated that they felt satisfied having contributed to the project, just for being able to do something for the neighbourhood.

Conclusions: Citizen science proved to be a valuable tool to work on actual improvement of the neighbourhood, reflecting residents' wishes. It is also a powerful way to engage residents to neighbourhood projects.

Support/Funding Source: This study was funded by ZonMw, The Netherlands.

