

The meaning of the bicycle for the daily mobility of low-income persons in Germany

Approaches to better enable cycling in daily mobility

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Session 11.4 - From research to practice: Working together towards equitable environments





1. Overview of the research project Social2Mobility

Project details and target area

Social2Mobility I: More social participation by integrated transport, spatial and social planning

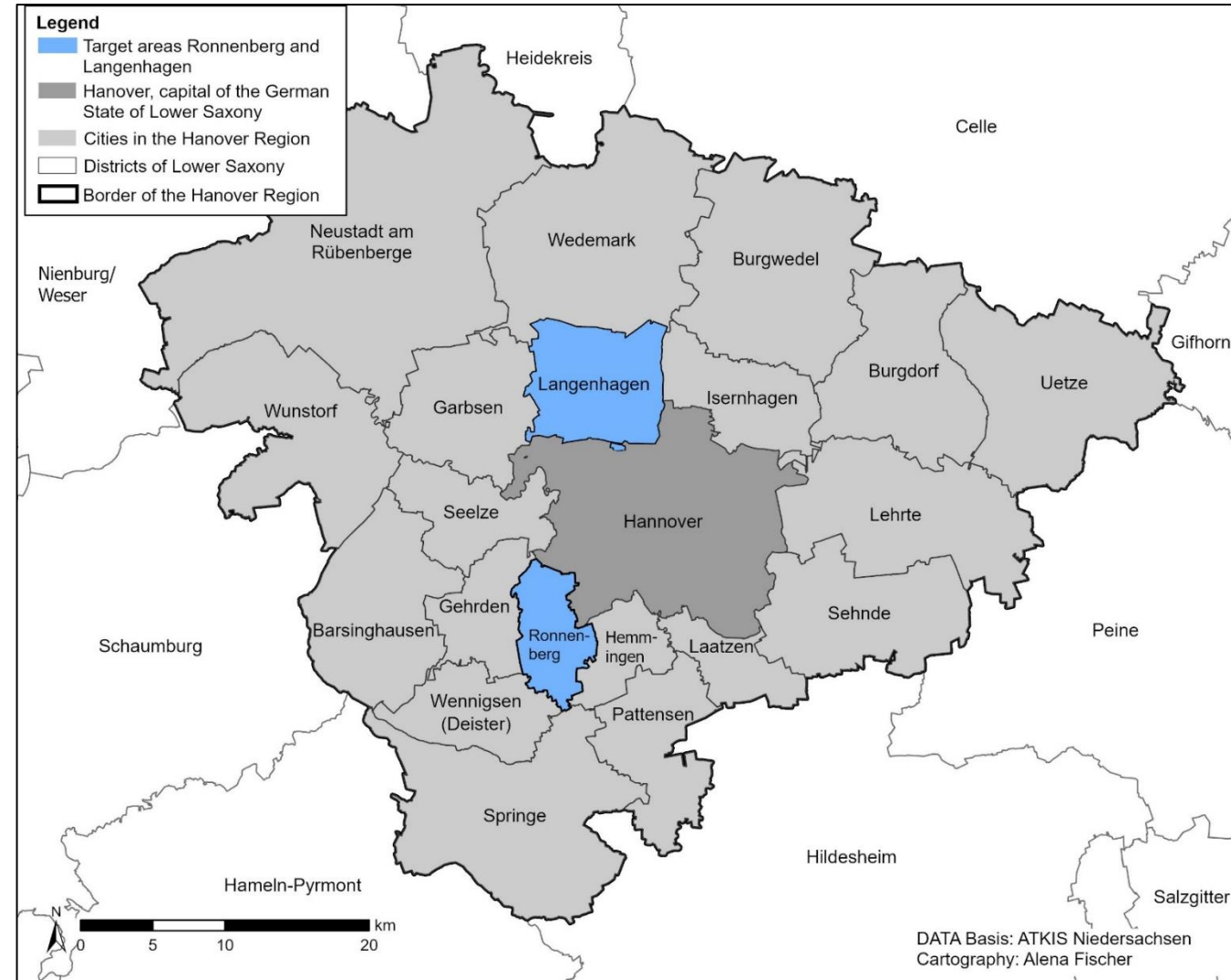
Social2Mobility II: Enable cycling mobility and social participation

Project goal: Strengthening the social participation of population groups at risk of poverty by increasing their mobility options

➤ Preventing transport poverty

Project modules

- Qualitative interviews and quantitative travel surveys with people at risk of poverty
- Participatory living lab
- Development and implementation of actions to improve cycling mobility & social participation in the Hanover Region
- ...

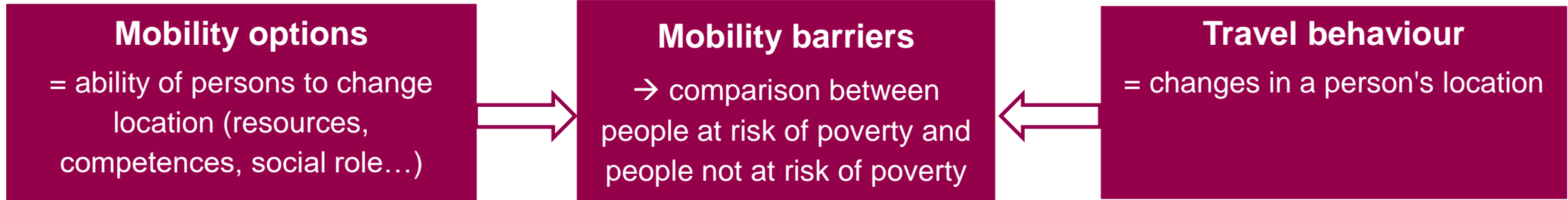


Study areas of the travel surveys

1. Overview of the research project Social2Mobility

Methods: Travel surveys 2020 and 2022

- Two travel surveys were conducted in 2020 and 2022 to collect data on the mobility of people at risk of poverty.



- For each household, the adult equivalent was determined according to the OECD scale; on this basis and the income, the equivalent income was calculated.
- Classification of a household as at-risk-of-poverty if the household's equivalized income is **below 60% of the median equivalized income** of the Hanover Region (EU standard)
 - Persons from these households are the **target group**
 - Persons from households not at risk of poverty are the **control group**

1. Overview of the research project Social2Mobility

Methods: Travel surveys 2020 and 2022

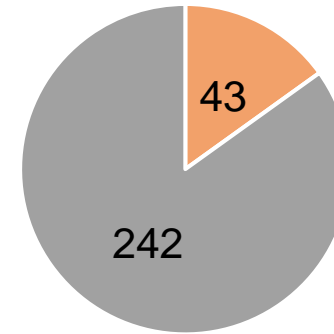
Travel survey 2020

Population and target area	All households with children in the city of Ronnenberg
Response rate	11 % (net sample: 285 households, 1031 persons)
Household type	Households with children

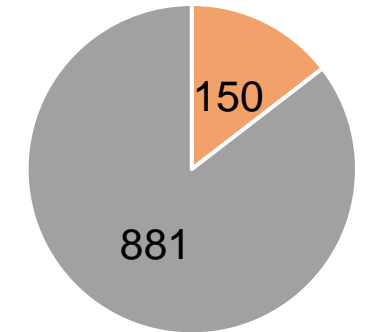
Travel survey 2022

Population and target area	All households in selected survey areas of the cities Ronnenberg and Langenhagen
Response rate	14 % (net sample: 320 households, 395 persons)
Household type	Presentation of selected results for single-person households and multi-person households without children ¹

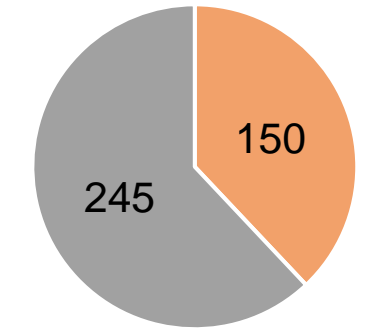
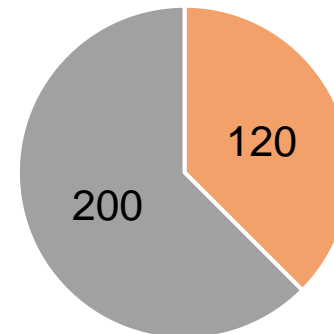
Distribution of **households** in absolute numbers (n)



Distribution of **persons** in absolute numbers (n)



■ Target group (at risk of poverty) ■ Control group



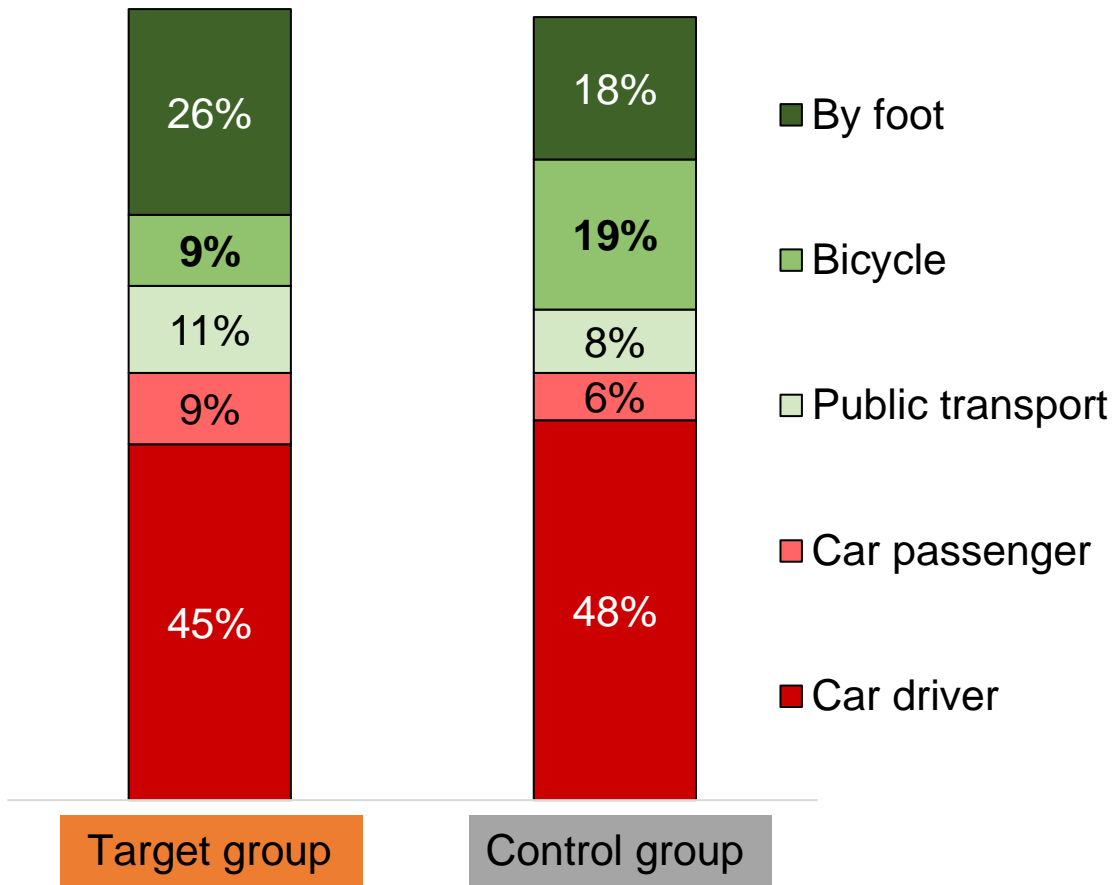
➤ Results are presented by **person level** (the sample is weighted and extrapolated)

¹ These households include no children under 15. This delimitation was chosen because persons aged 15 and over already count as "adults" on the basis of the OECD scale (Eurostat 2021). In addition, children up to the age of 14 can travel for free with public transport when accompanying their parents (RMV 2023).

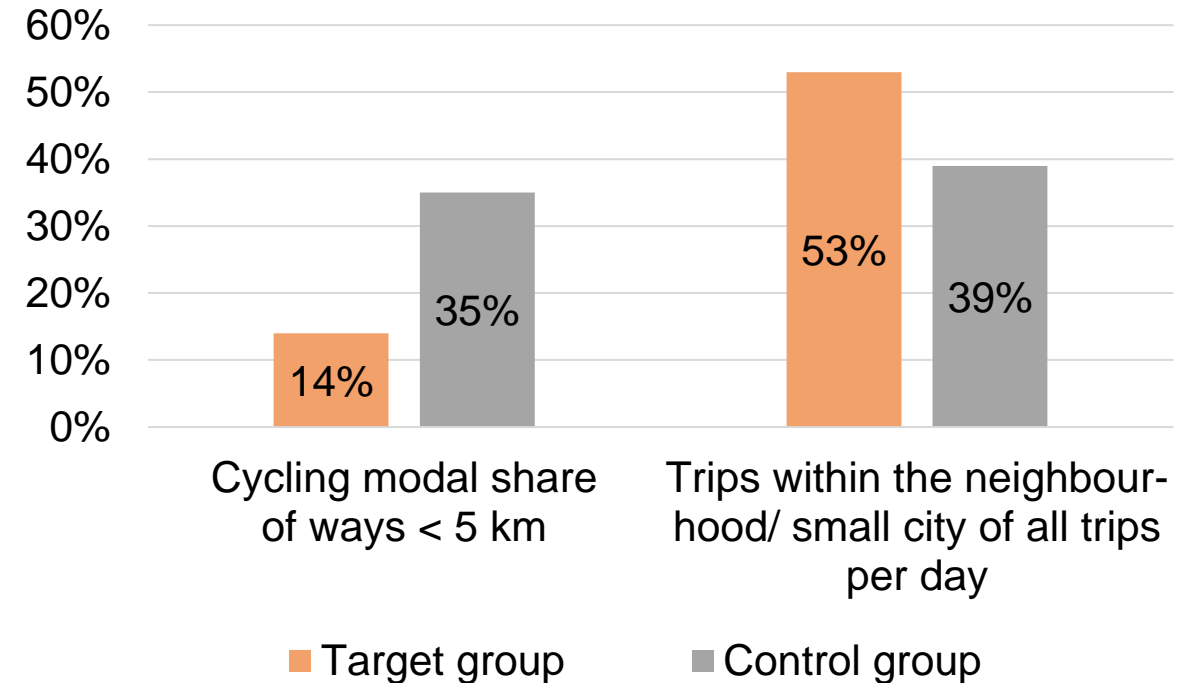
2. Empirical results on the cycling mobility of persons at risk of poverty

2.1 Households with children at risk of poverty

1. The cycling modal share is lower.



2. ...despite a higher proportion of shorter trips (within the local area)

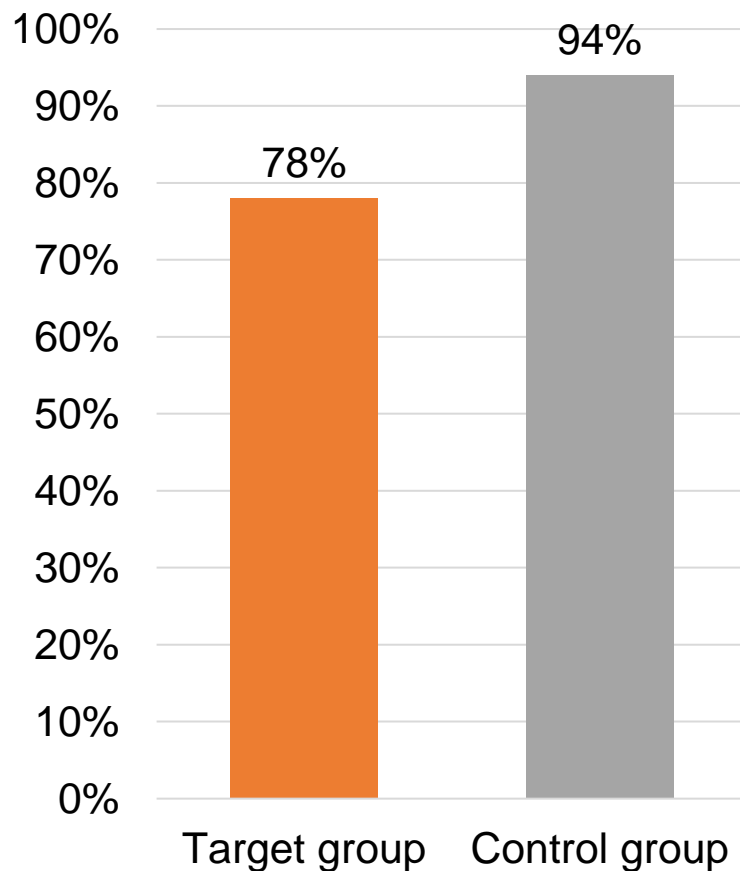


- They rate their accessibility of destinations worse.
- They make significantly less leisure activities.
- **The bicycle could be a needs based solution.**

2. Empirical results on the cycling mobility of persons at risk of poverty

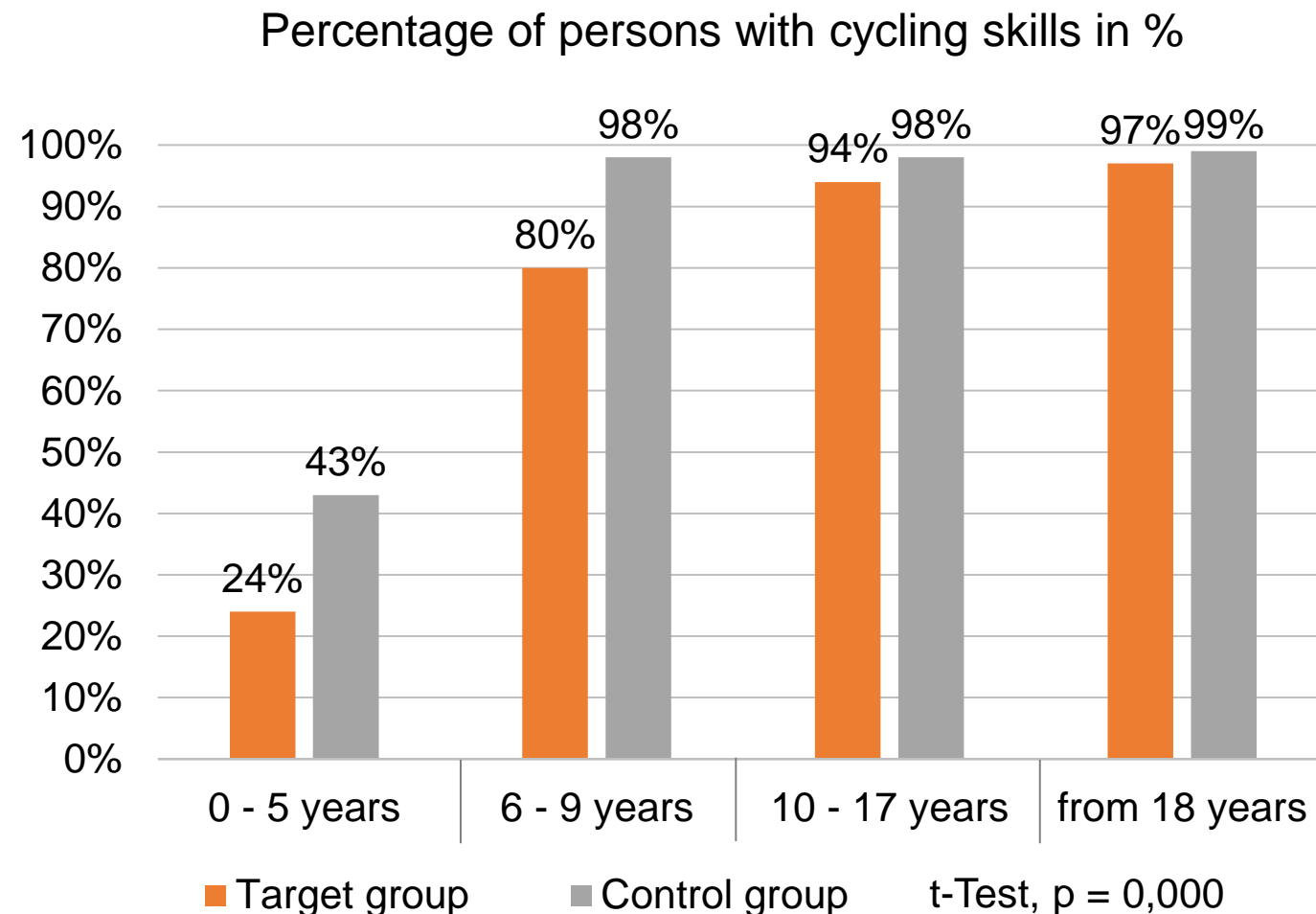
2.1 Households with children at risk of poverty

3. The bicycle availability is lower.



t-Test, $p = 0,000$

4. Cycling skills are lower and these are learnt later.



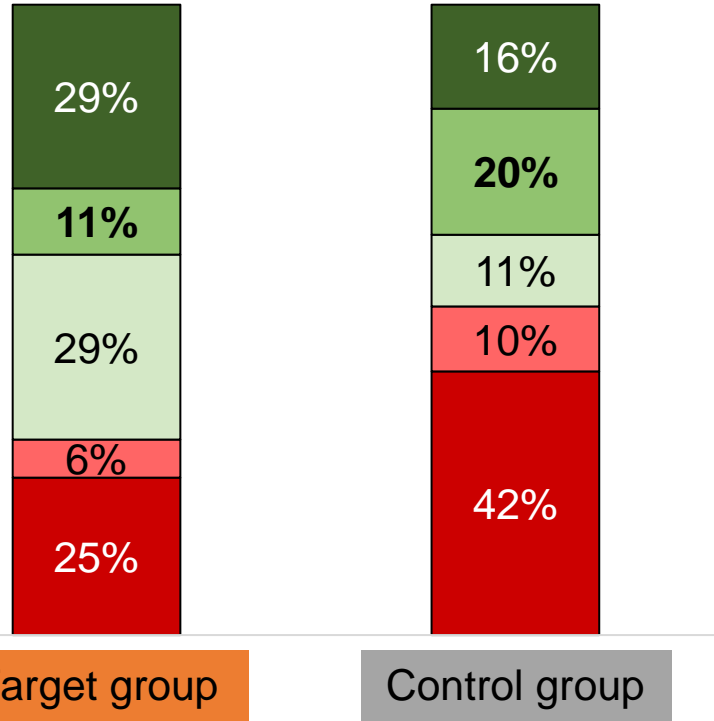
2. Empirical results on the cycling mobility of persons at risk of poverty

2.2 Travel survey 2022: Different household types at risk of poverty

1. The cycling modal share depends on the household type.

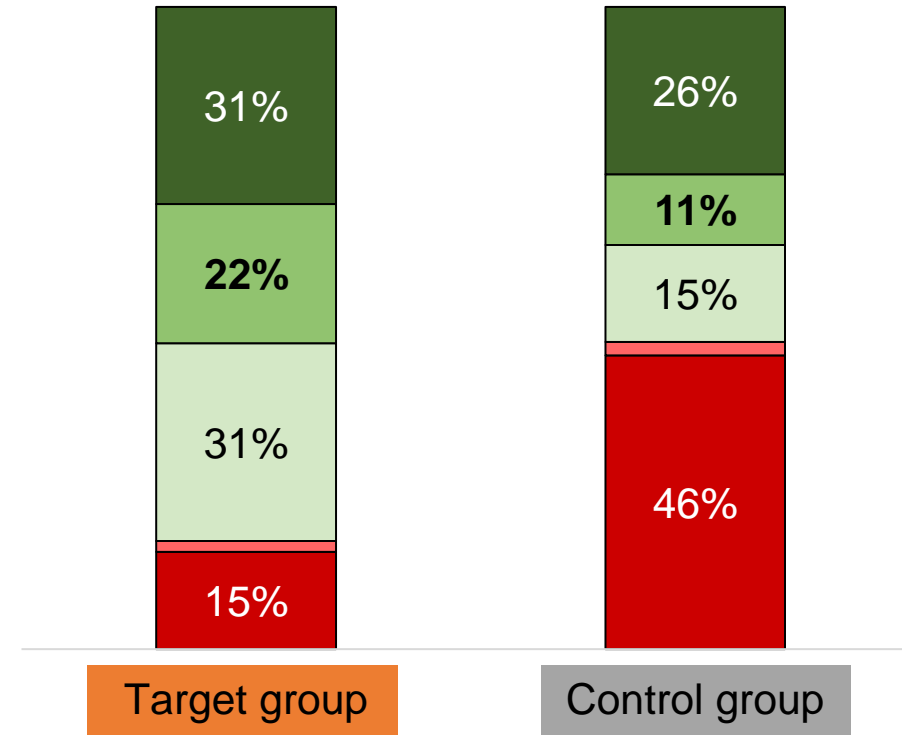
Multi-person households without children

Modal Split



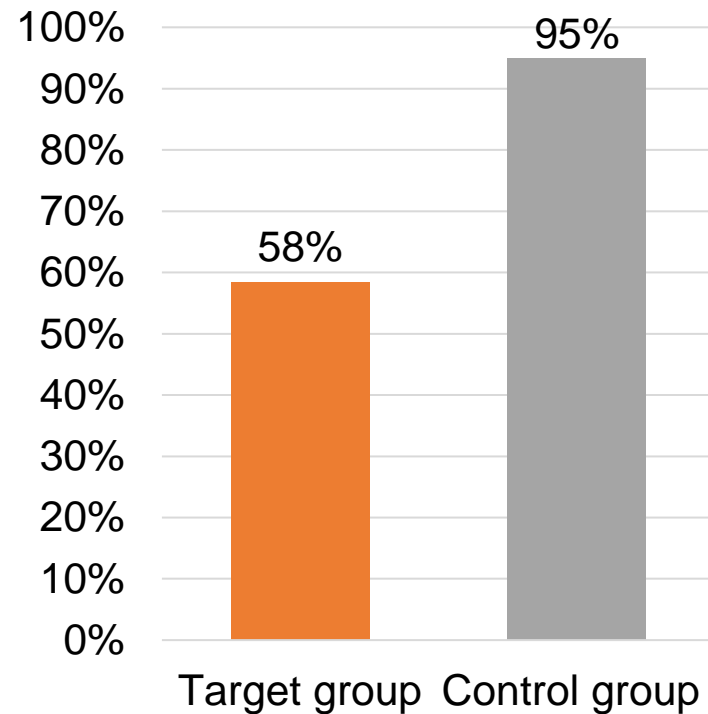
Single-person households

Modal Split



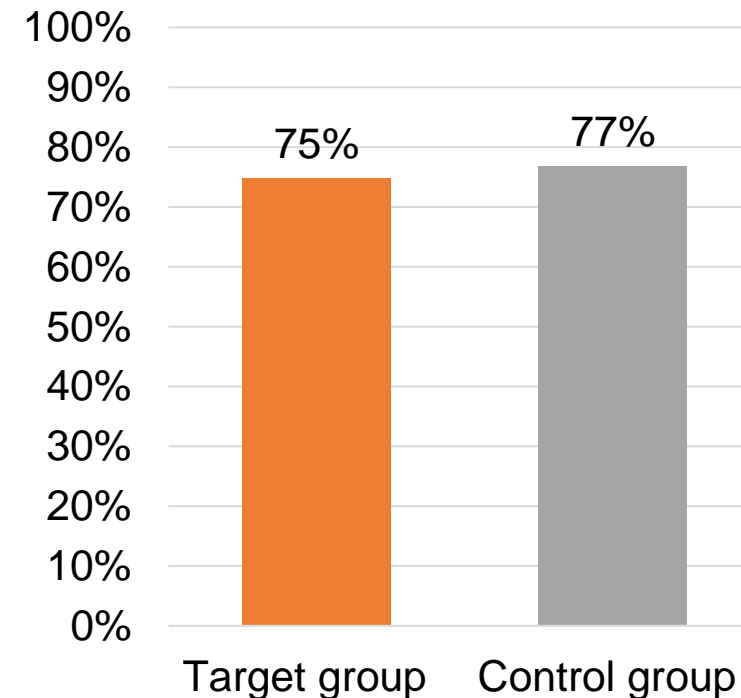
2. Lower bicycle availability in multi-person households

Multi-person households without children



Mann-Whitney-U-Test, $p = 0,000$

Single-person households



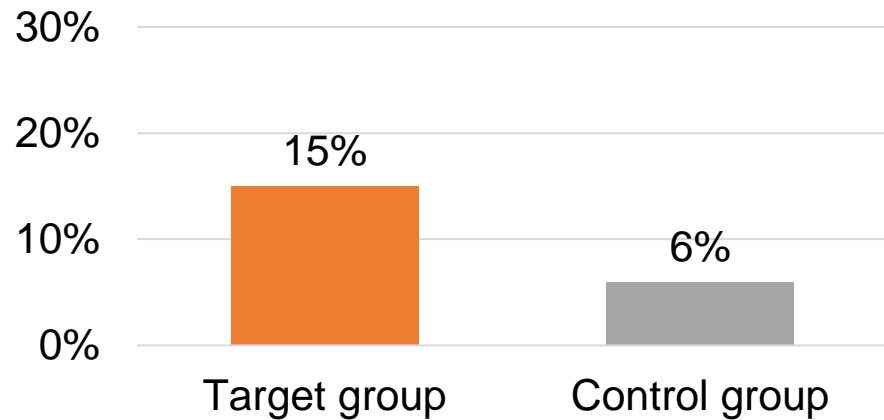
Mann-Whitney-U-Test, $p = 0,340$

2. Empirical results on the cycling mobility of persons at risk of poverty

2.2 Travel survey 2022: Different household types at risk of poverty

3. More bikes not working

Multi-person households without children

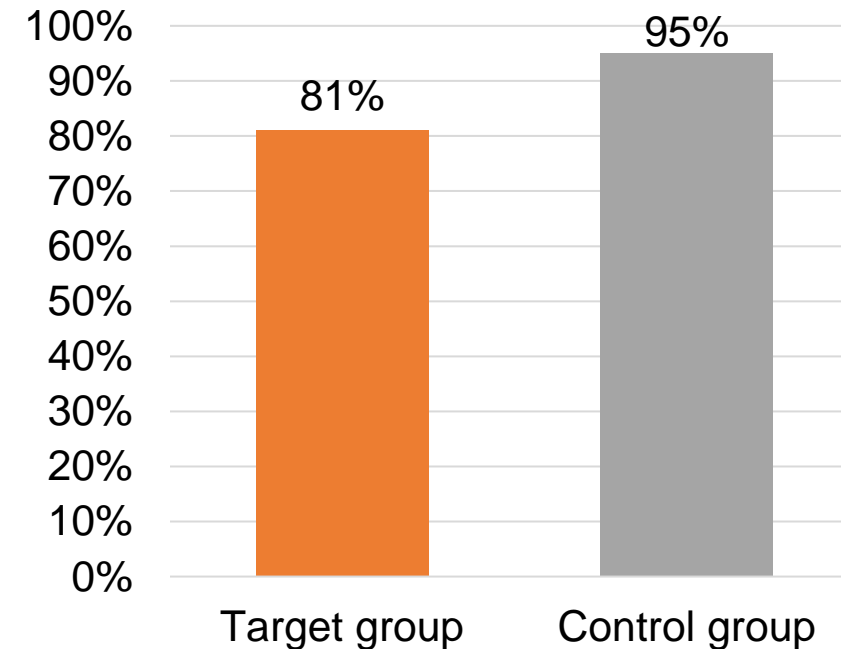


Mann-Whitney-U-Test, $p = 0,000$

- No significant difference in single-person households
- Persons at risk of poverty **use bicycle repair workshops significantly less.**

4. Less secure bicycle parking facilities at home

Multi-person households without children

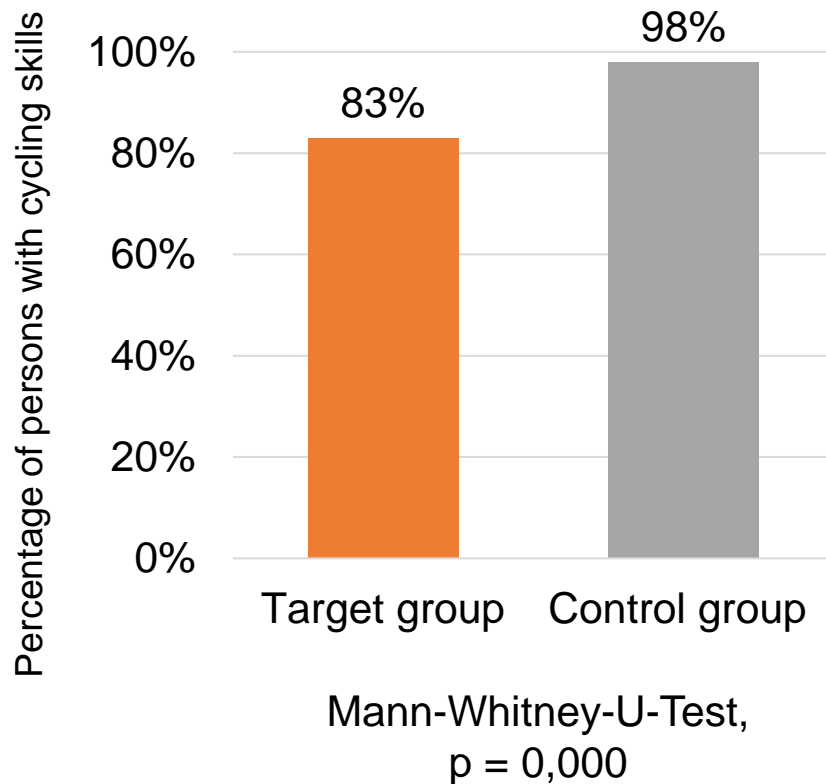


Mann-Whitney-U-Test, $p = 0,000$

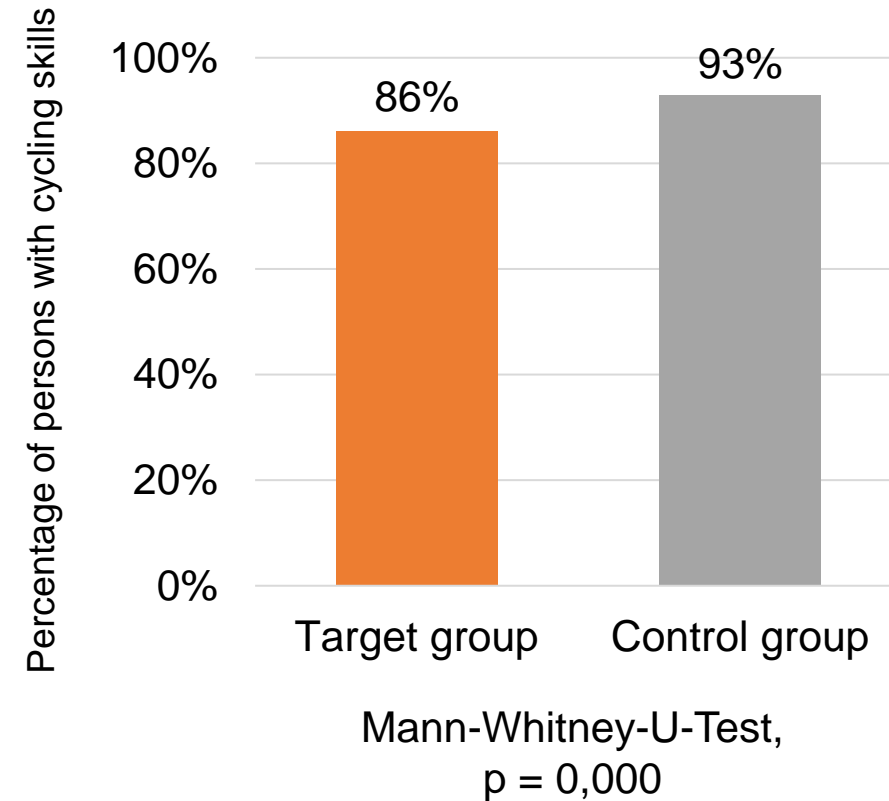
- No significant difference in single-person households

5. Lower cycling skills

Multi-person households without children



Single-person households



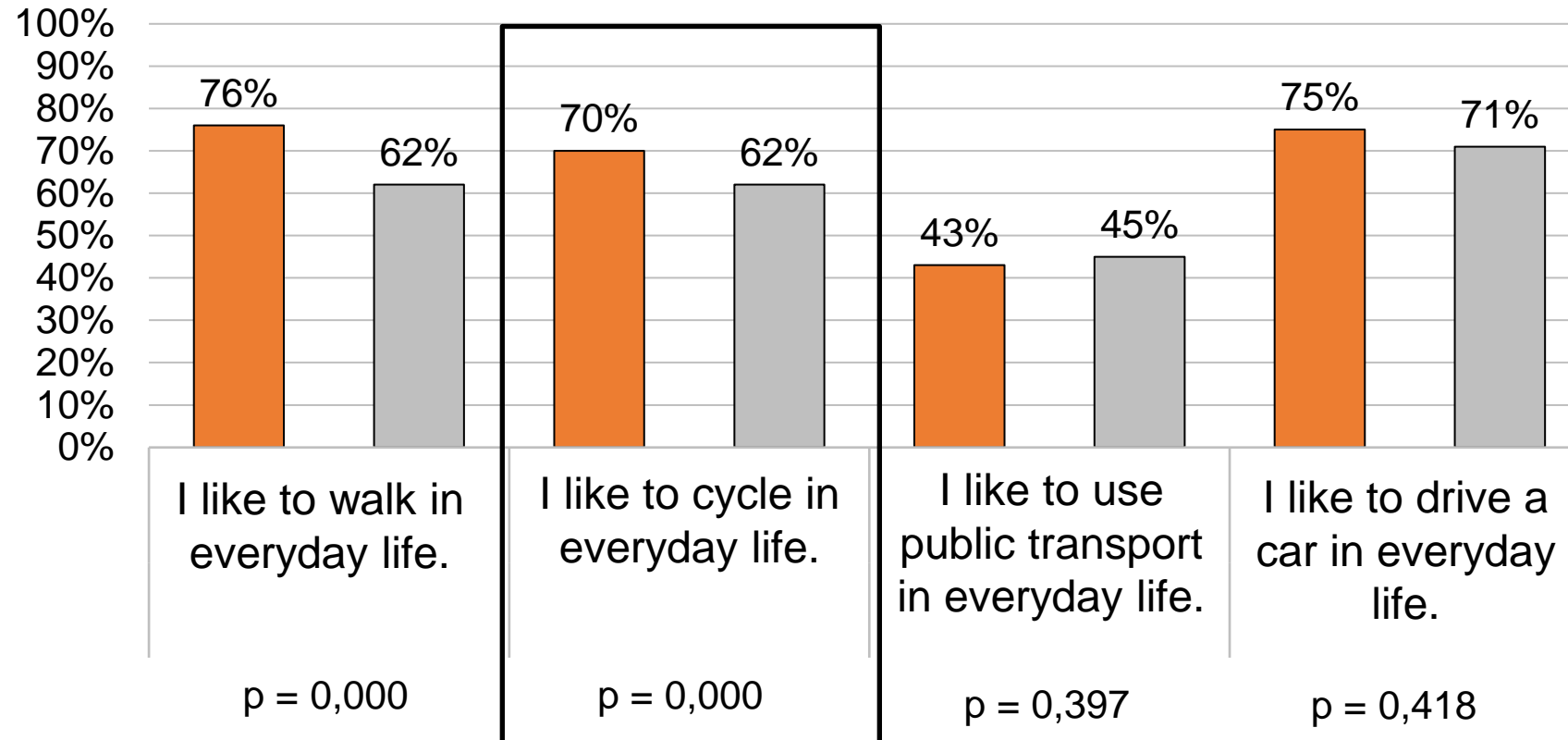
→ Persons at risk of poverty have a lower subjective perception of safety when cycling in road traffic.

2. Empirical results on the cycling mobility of persons at risk of poverty

2.2 Travel survey 2022: Different household types at risk of poverty

6. More positive attitude towards cycling

Single-person households



Determination of significance using the Mann-Whitney-U-Test

*for the statement on bicycles: evaluation only for people who have a bicycle at their disposal;
for the statement on cars: evaluation only for people who have a car at their disposal

3. Approaches to better enable cycling in the daily mobility of households at risk of poverty

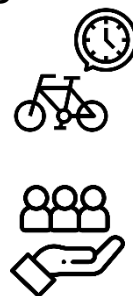
How can the bicycle become a practical and cost-effective daily means of transport for people at risk of poverty?

Tackling the barriers

Lack of a (working) bicycle + equipment (e.g. trailer)

Actions of target-group specific cycling promotion

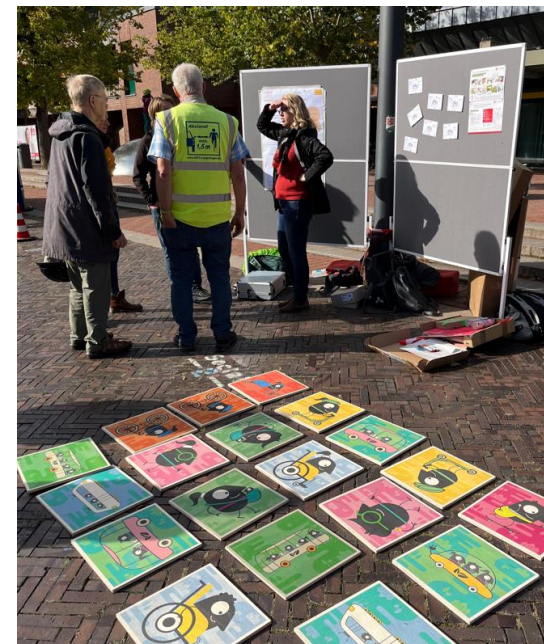
- Free rental/ provision of bicycles and equipment (like trailers, cargo bikes) e.g. by social institutions: cooperation with a local family service centre



- Low-threshold afternoon mobility events to try different vehicles



- Establishment/ support of non-profit community led bicycle (self) repair workshops



Mobil mit dem Familienzentrum

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- LAUFRÄDER**

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3. Approaches to better enable cycling in the daily mobility of households at risk of poverty

How can the bicycle become a practical and cost-effective daily means of transport for people at risk of poverty?

Tackling the barriers

Lack of cycling competences/ lack of feeling safe in road traffic

Actions of target-group specific cycling promotion

- Cycling courses for different (age) groups (e.g. adult women, children) including road safety and road traffic regulations



- Bicycle self-repair services with a mobile bicycle workshop especially in disadvantaged urban areas



- Joint guided excursions by bicycle to get to know comfortable bicycle routes

- Awareness and information campaigns (e.g. information on financial support)



- The **barriers to bicycle use** for persons at risk of poverty are manifold and **differ significantly between** different groups of people and **household types**. → no „one-size-fits-all solution“
- **Single person households** seem to have **less barriers to cycling** compared to multi-person households.

Persons at risk of poverty in the Hanover region....

- living in multi-person households **cycle less**.
- have **lower cycling competences** and learn later how to cycle.
- have a **lower perception of safety** when riding in road traffic.
- have a **higher proportion of trips with local destinations** within the neighbourhood.
- To better enable cycling in the daily mobility of low-income persons, needs-based **target group-specific actions** regarding cycling promotion are necessary – in addition to safe cycle infrastructure.
- **Low-threshold services** and a non-stigmatizing communication of these services are a precondition.
- **Vulnerable groups** have to be **actively involved in planning and decision making processes** to reflect a variety of different needs (e.g. mobility of caring).



Let's end transport poverty!

Thank you for listening!

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