The Attitude – Behavior Gap in Transport: Determinants of an Effective Choice Architecture for Sustainable Urban Mobility

Monika Paradowska, PhD
University of Wrocław, Poland

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

ECOSERV 2023
Poznań, September 14-16

From homo oeconomicus to homo sustinens - how to fill the "attitude-behavior” gap for sustainable urban mobility

Preliminary research financed by the National Science Center
as part of the Miniatura 6 competition
(No. DEC-2022/06/X/HS4/00670)

NATIONAL SCIENCE CENTRE
POLAND

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Background – the Problem of (Un)Sustainable Mobility

- Pro-environmental and pro-social attitudes as conditions for sustainable consumption?
- Hard vs soft measures in sustainable transport policies (internal vs external motivations)
- Knowledge – attitude – behaviour gap

Homo Oeconomicus

- rational decisions
- maximising utility
- driven by own interest

Homo Sustinens

- altruistic, cooperative behaviour
- social and environmental responsibility

Preliminary research: From homo oeconomicus to homo sustinens - how to fill the "attitude-behavior” gap for sustainable urban mobility

- **Research goal**: investigating the extent to which different combinations of direct, visually supported information about private and external costs and benefits influence the replacement of cars with more sustainable modes of urban transport and thus reduce the "attitude-behaviour gap".

- **Hypothesis**: Car users rarely resign from their car if the perceived loss is stronger than the satisfaction of behaving in accordance with their knowledge, pro-environmental and pro-social attitudes. This "attitude-behaviour" gap is limited by hard tools supported by soft tools - information emphasising first private benefits, and then environmental and social ones.

- MINIATURA 6 (National Science Centre)

National Science Centre Poland

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Research design

- **Theoretical background**: behavioural economics (framing effect and loss aversion), economics of sustainable consumption

- Survey questionnaire divided into 2 parts (detailed research goals):

  - I – investigating the “attitude – behaviour” gap & propensity to switch a car to a more sustainable mode of transport

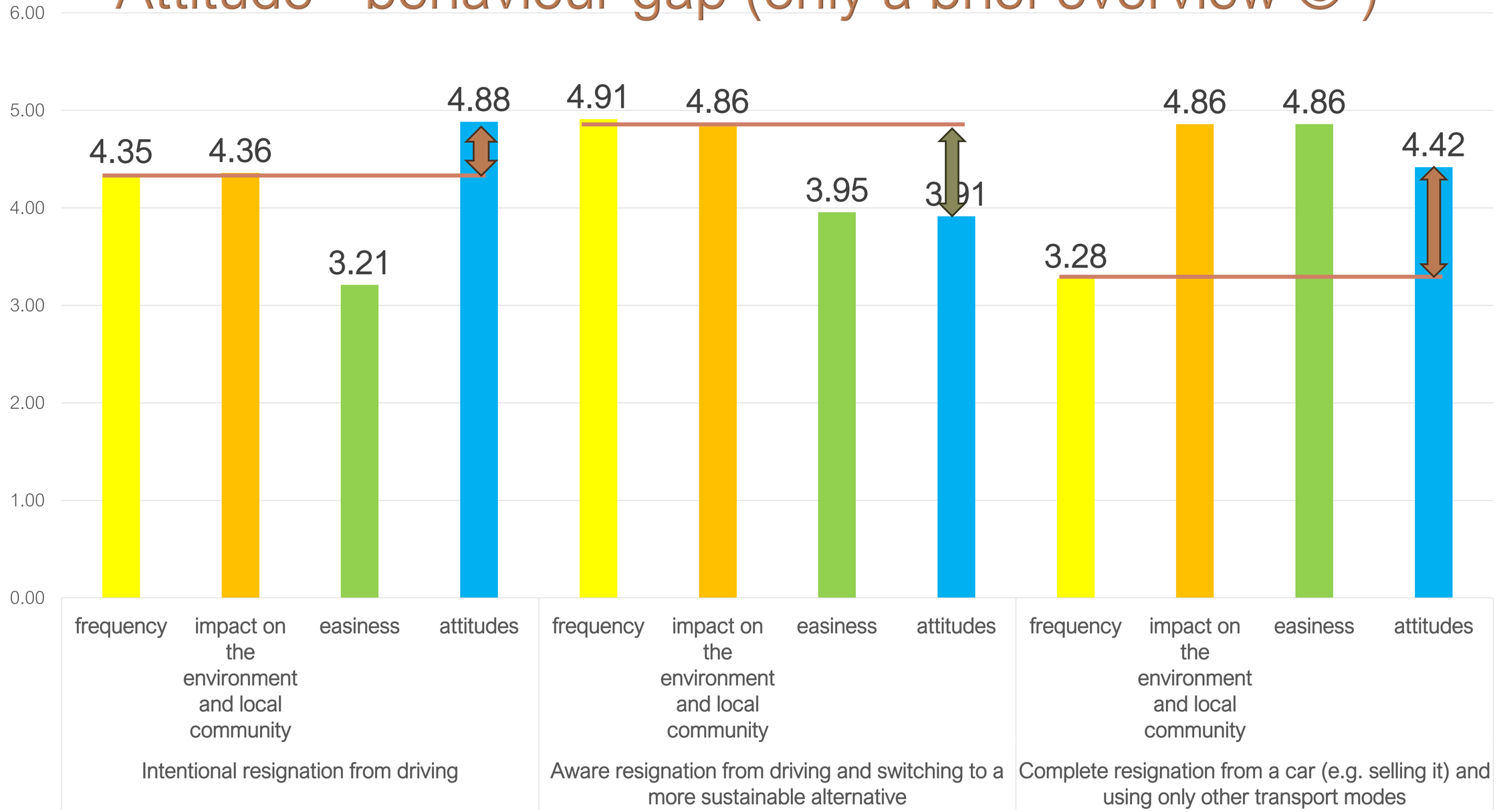
  - **II – impact of direct, visually supported information about private and external costs and benefits on (transport) behaviour/acceptance of restrictions for car users**

Research design

- CAWI, March 2022, 7-item Likert scale
- 400 respondents (car drivers in the age 30-40) devided into 4 experimental groups of 100
  - Group A – control group, no visual information
  - Group B – focus on prosocial and proecological attitudes & social and environmental benefits
  - Group C – focus on private benefits resulting from prosocial and proecological behaviour
  - Group D – focus on private costs & social and environmental benefits

H.4: The propensity to choose the more sustainable option will be: A<D<B<C

Attitude - behaviour gap (only a brief overview ☺)



Experimental part of the research – 5 hypothetical situations

Group A

only text

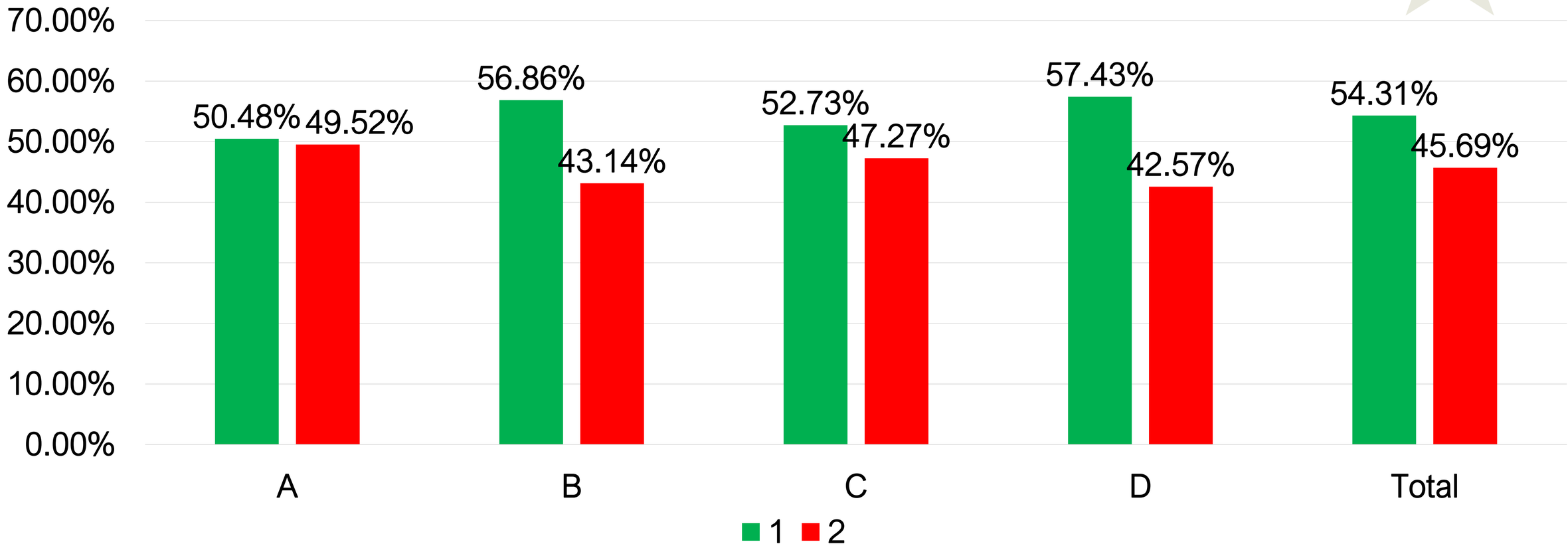
Group B

Group C

Group D

- 1 – „a more sustainable” choice 2 – „a less sustainable” choice

Situation 1 - choosing a house depending on the availability of public transport (1) and driving time (1 – 90 minutes by car, 60 minutes by train, 2 – 60 minutes by car, no public transport)

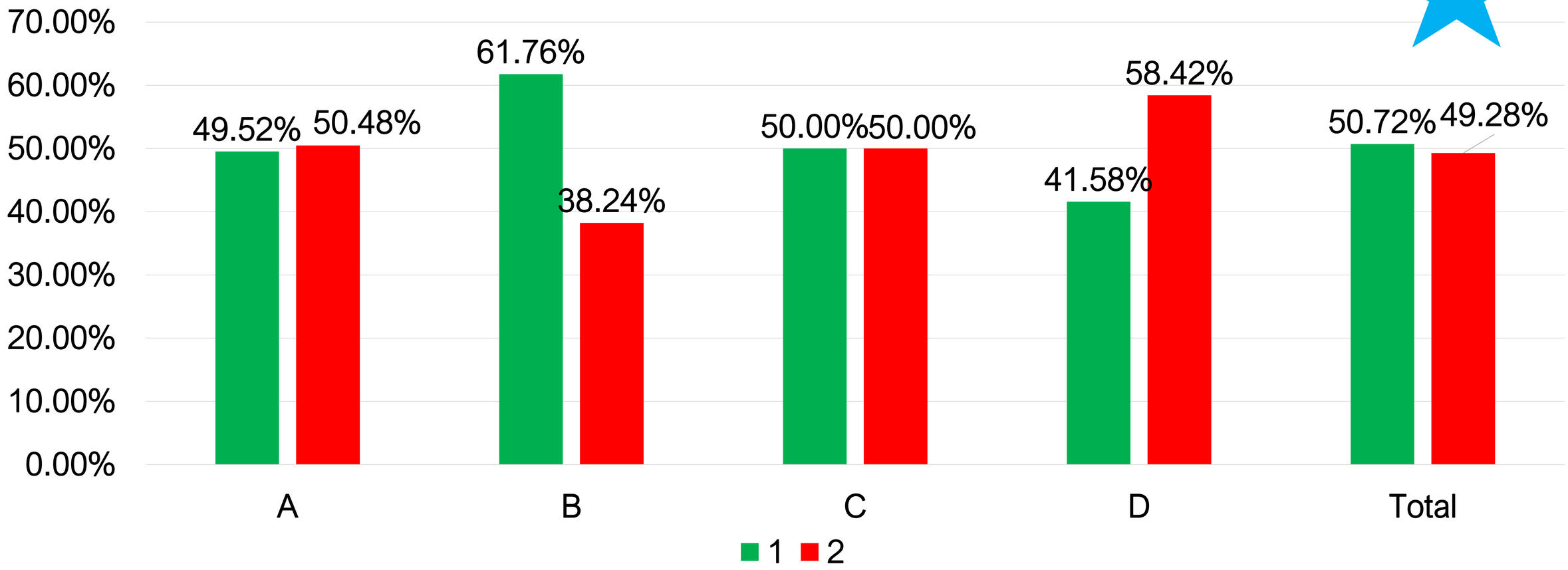


A < C < B, D

Uniwersytet Wrocławski

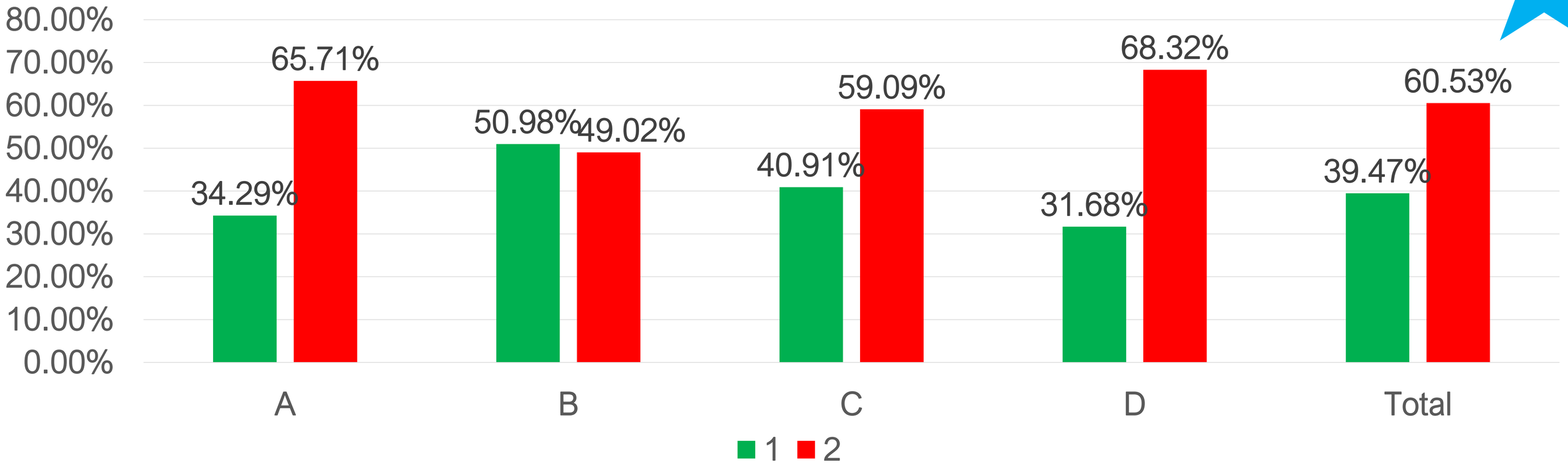
UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Situation 2 - elimination of the possibility of commuting to work by car, 1 - two buses propelled by electric motors, 2 - one bus, green areas replaced by a bus lane (own interes vs the environment/ES)



D < A < C < B

new solutions in urban transportation (in both cases no possibility to commute by car), 1 - transport infrastructure replaced by shelters for homeless people and orphans, 40 minutes of commuting by public transport , 2 - new bus lanes, 30 minutes of commuting by public transport (own interes vs local community)

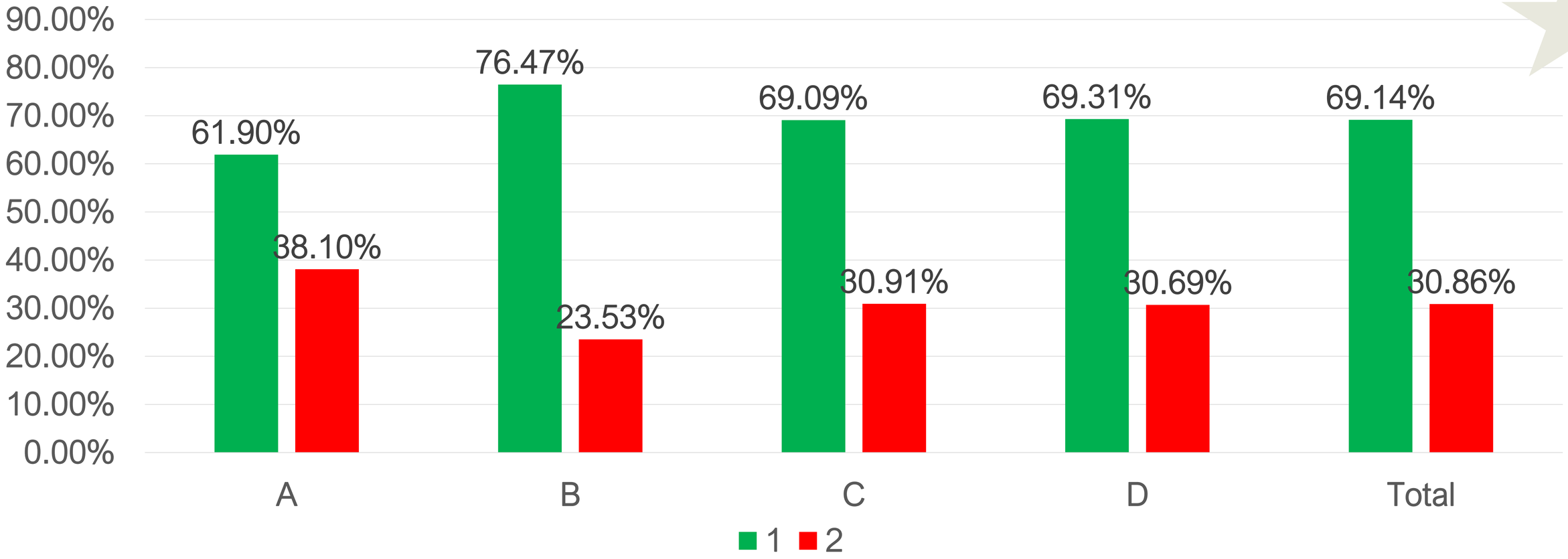


D < A < C < B

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Situation 4 - a family trip by car to the beach by the forest lake, 1 - official parking space outside the forest, 1 km on foot to the lake, 2 - "unofficial" parking space, 150 meters to the beach (own interes vs the environment/ES)

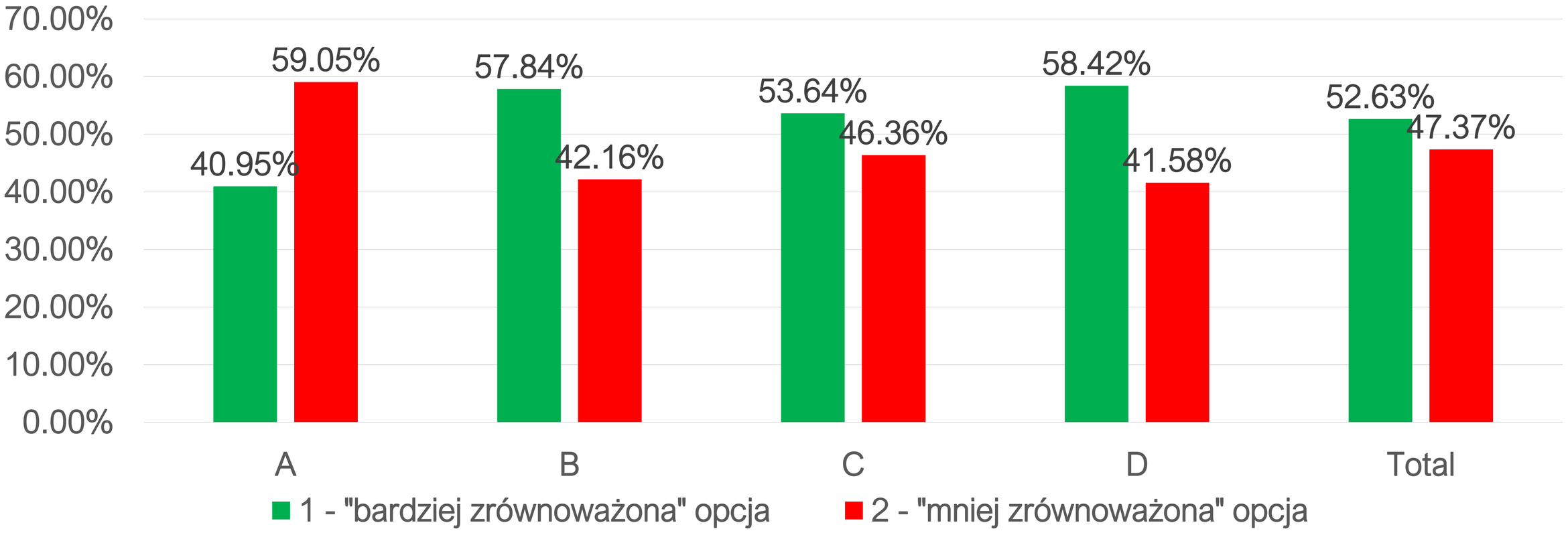


A < C, D < B

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Situation 5 - coming back home from work (by car, stuck in a traffic jam), 1 - patiently waiting for the green light, 10 minutes/700 meters to home, 2 - a shortcut through a quiet residential street, 5 minutes/700 meters to home (own interes vs local community)



A < B, D < C

Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Conclusion

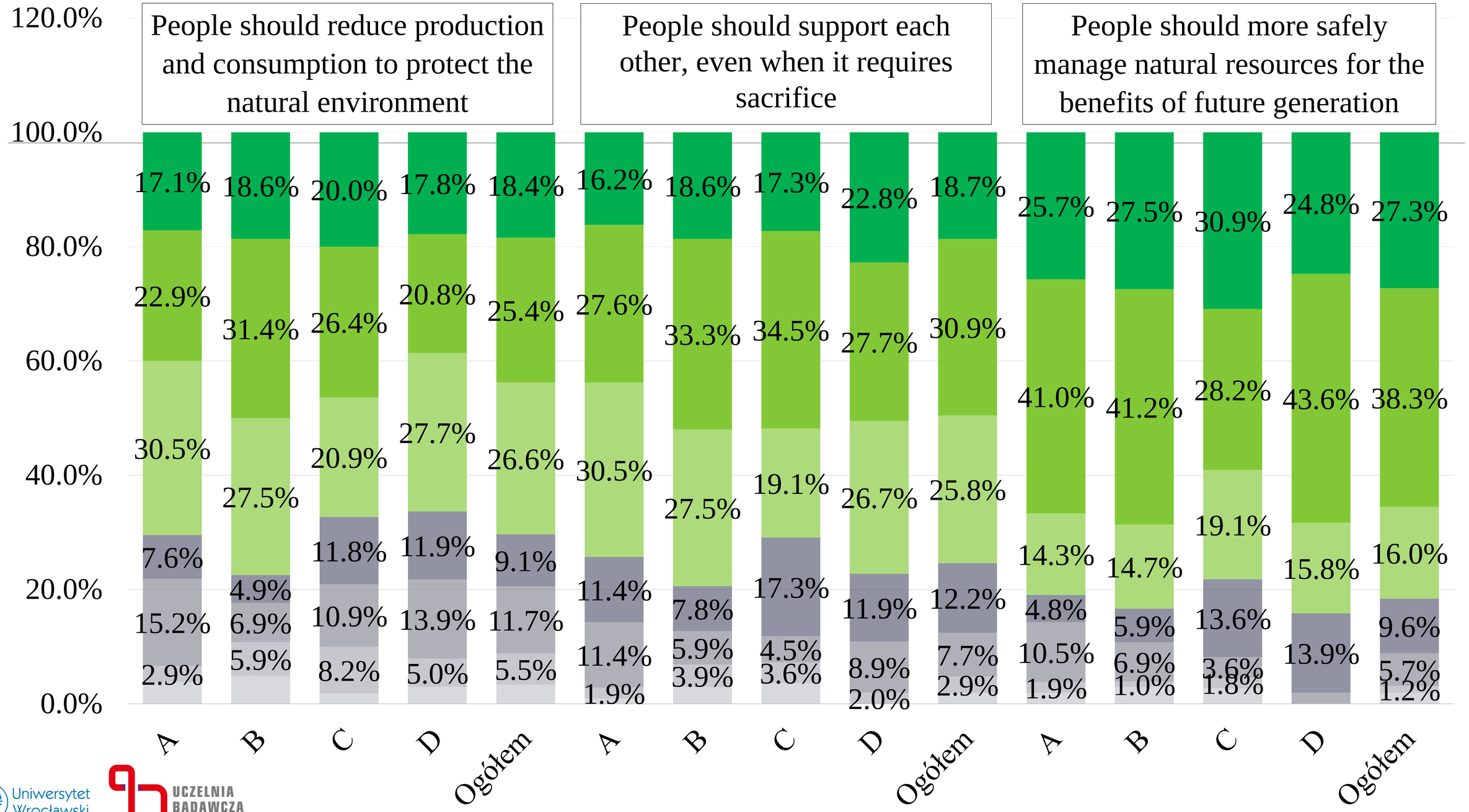
- Soft measures have a great (but neglected) potential to support hard measures in policies for sustainable urban mobility – internal motivation is stronger and long-lasting
- In general, respondents were more likely to choose a „more sustainable” option when they were informed about environmental and social benefits
  - Group A – less likely to resign form their “own interest”
  - Group B – reduction in the attitude – behaviour gap
  - Group D – loss aversion (?)
  - Group C – tired of being manipulated?
- Other factors (income – A & D with lower average income; children – C: 1.17, A: 1.3; D: 1.5; B: 1.57)
- Further studies are necessary!

Thank you for your attention

https://www.strefakulturalnejjazdy.pl/2017/08/gdzie-i-jak-sprzedac-auto-poradnik-krok.html

Attitude – behaviour gap

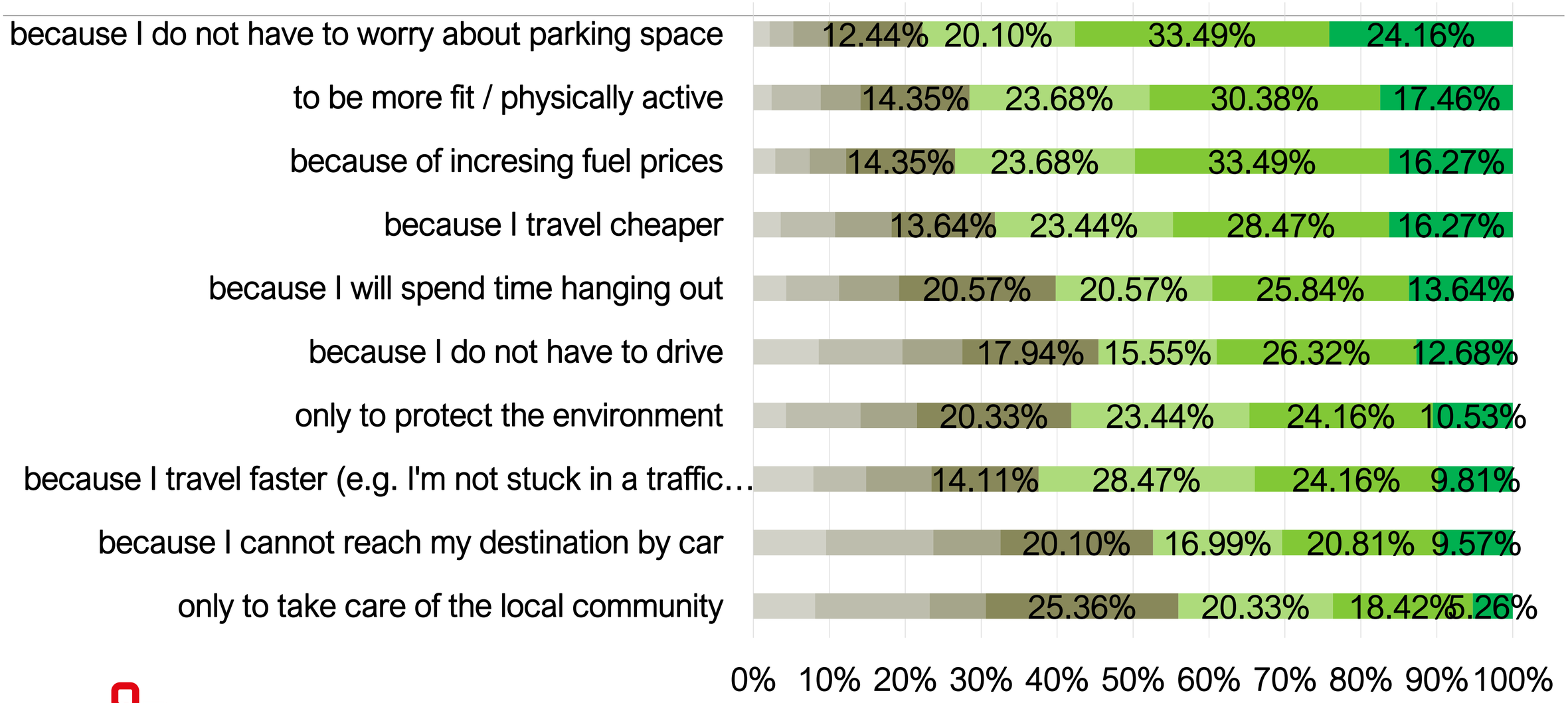
Sustainable transport behaviour	Attitude = behaviour			Possible deviations between attitude and behaviour +/-1		
	Negative gap	Positive gap	No gap	Negative gap	Positive gap	No gap
Intentional resignation from driving	47.85%	21.29%	30.86%	24.16%	6.46%	69.38%
Aware resignation from driving and switching to a more sustainable alternative	45.22%	19.62%	35.17%	21.29%	6.22%	72.49%
Complete resignation from a car (e.g. selling it) and using only other transport modes	60.29%	16.27%	23.44%	39.47%	5.26%	55.26%



Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI

Reasons for switching a car to a more sustainable transport mode



Uniwersytet Wrocławski

UCZELNIA BADAWCZA
INICJATYWA DOSKONAŁOŚCI