

# A Sustainability Lifestyle Typology of Teleworkers rationale: Differences in Commuting Carbon Footprints and Subjective Well-Being?

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# Agenda

Research rationale

Methodological framework

Data and methods

Findings

Policy recommendations

Key takeaways

# Research rationale

## Telework

- ❖ **decreases** commuting trips and respective CO<sub>2</sub> emissions, but creates additional opportunities for leisure travel (Balthasar et al., 2024)
- ❖ **increases** living space demand for the home office (Z'Rotz et al., 2026)  
and distances between place of living and regular workplaces (Ravalet & Rérat, 2019)

## Research gap

- ❖ previous research has not accounted for the heterogeneity of teleworker groups, on the effects of teleworking
  - on carbon footprints in commuting
  - subjective well-being
  - and their mutual interrelations

## So what?

- ❖ Lifestyle research and tailored interventions: More wellbeing, less carbon footprint

# Conceptual and Methodological Framework

- ❖ Telework is defined as paid work carried out outside the employer’s usual workplace on an occasional or regular basis.

Universe of the Study: Swiss teleworkers

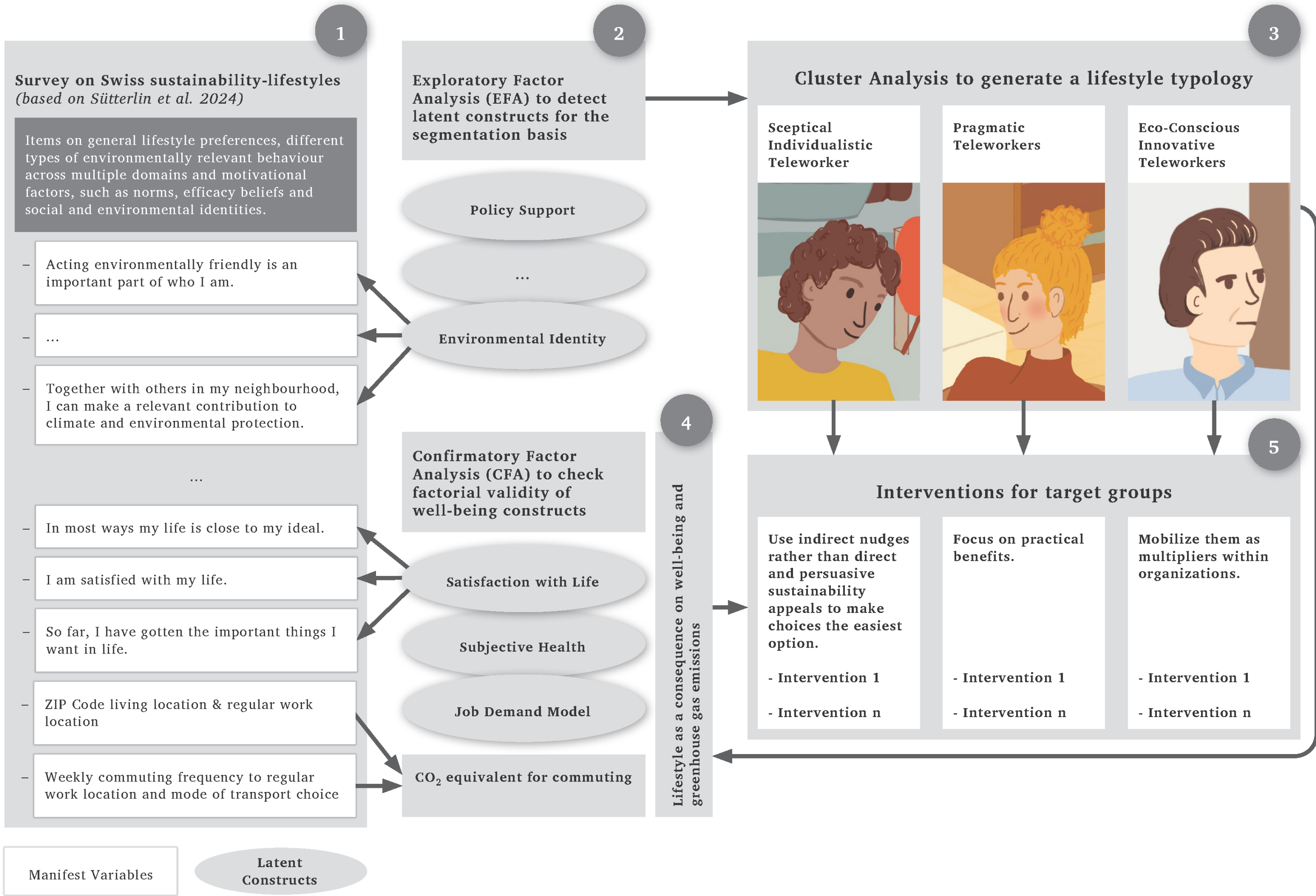
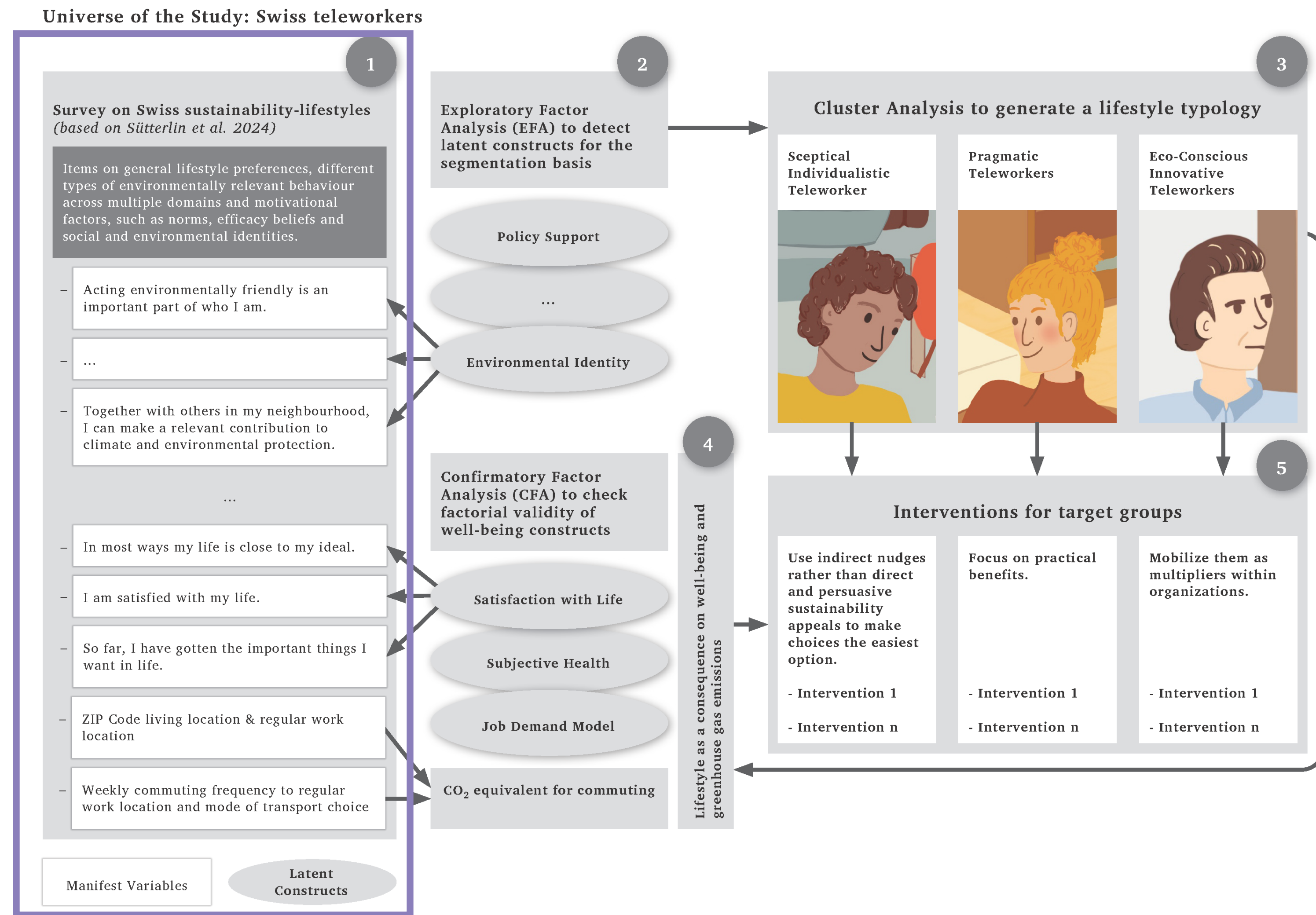


Fig.1. Conceptual and methodological framework.

# Data

- ❖ Online survey of 1,230 teleworkers in Switzerland
- ❖ Aged 18+
- ❖ French/German language regions
- ❖ Oct 2024 – Jan 2025
- ❖ Sample validated against Swiss national labour statistics
- ❖ Items and constructs are derived from Sütterlin et al. (2024)



**Fig.1.** Conceptual and methodological framework.

# Latent Constructs

- ❖ Exploratory Factor Analysis
- ❖ 45 items into 10 factors

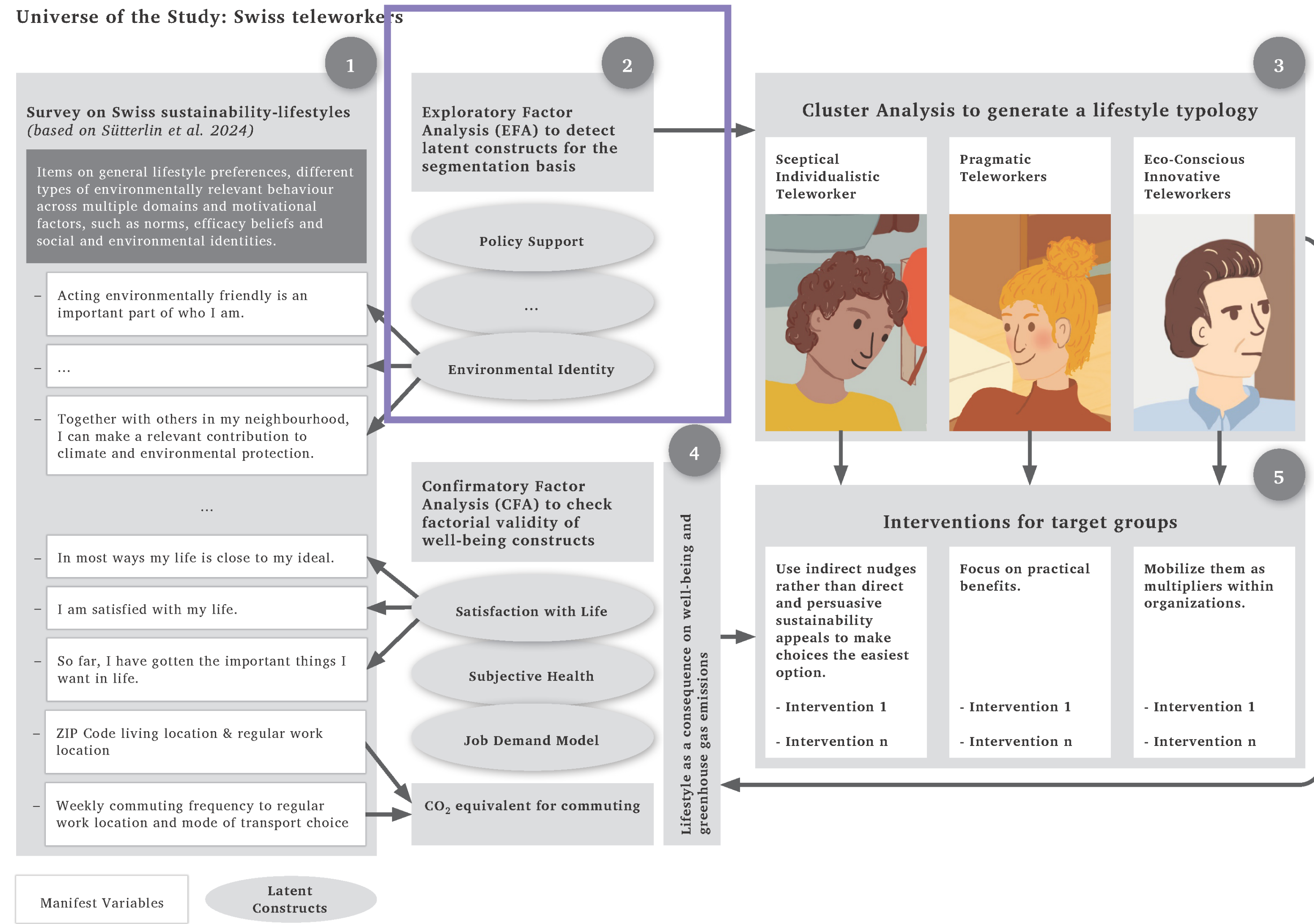
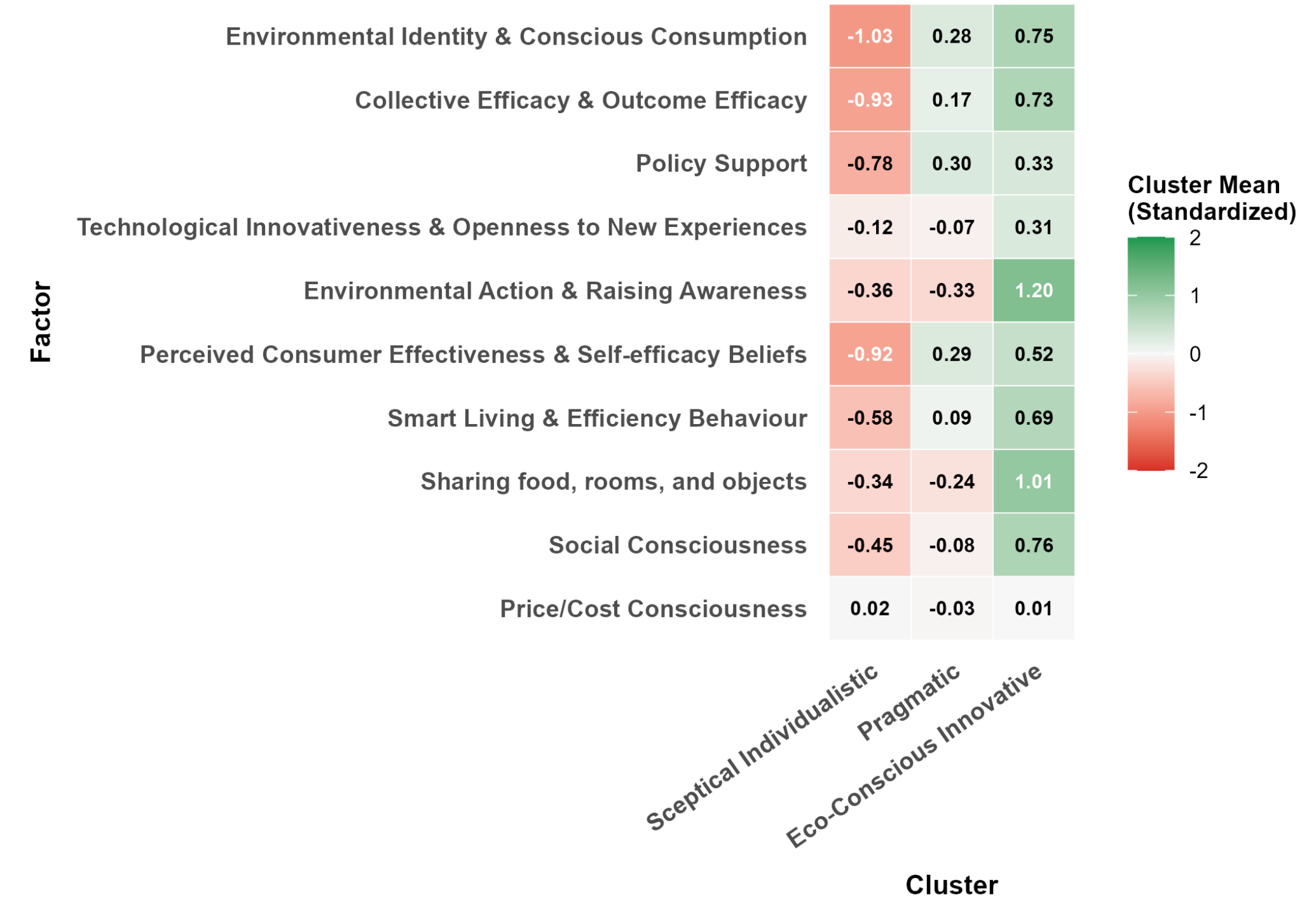


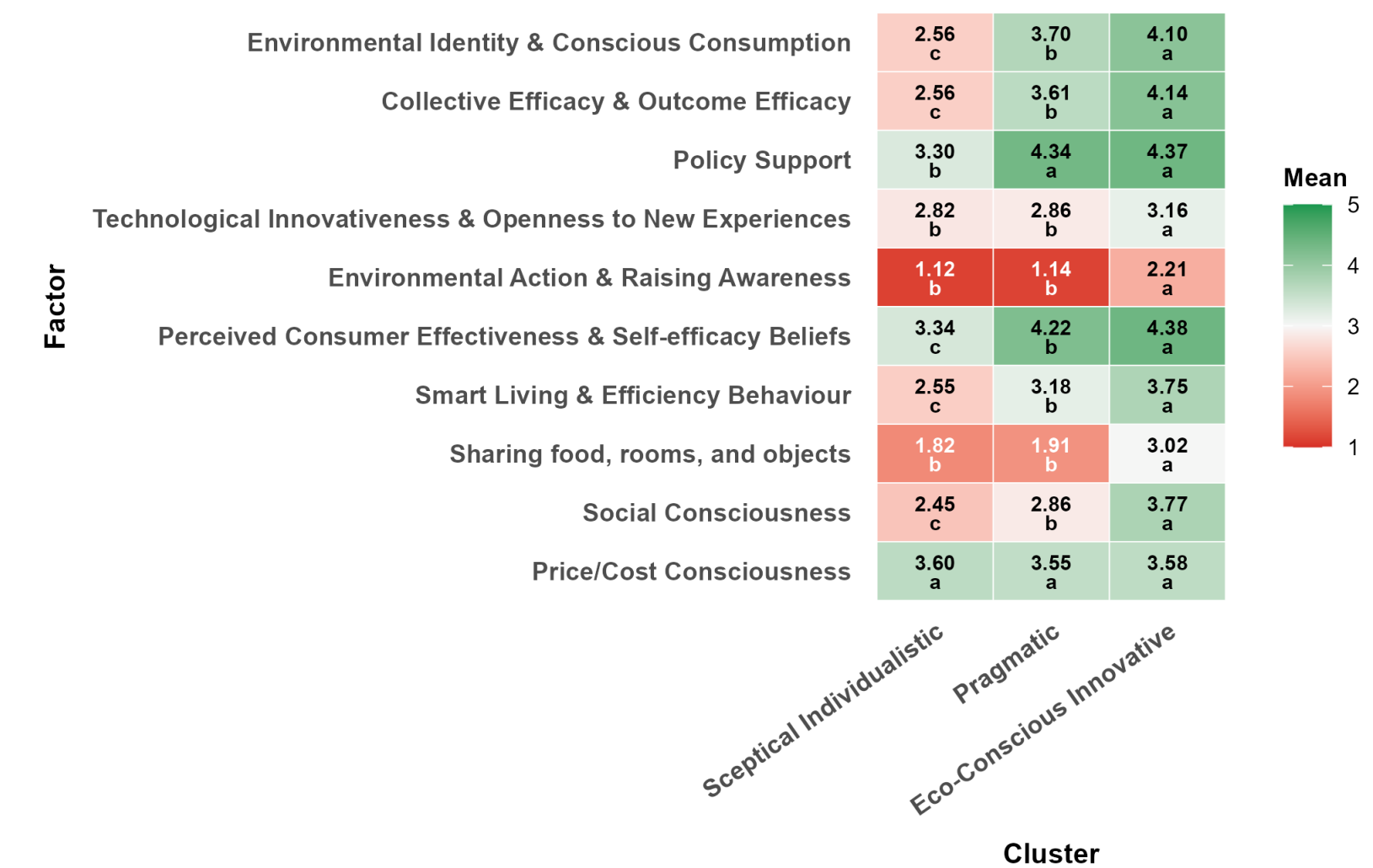
Fig.1. Conceptual and methodological framework.

# Cluster Analysis

AIO	Latent Constructs
Activities	Smart living and efficiency behaviour; <b>sharing food, rooms, and objects</b> ; environmental action and conscious consumption; <b>price/cost consciousness</b>
Interest	Environmental identity; <b>consciousness consumption</b> ; technological innovativeness
Opinions	Policy support; <b>collective efficacy and outcome efficacy</b> ; self-efficacy beliefs and perceived consumer effectiveness



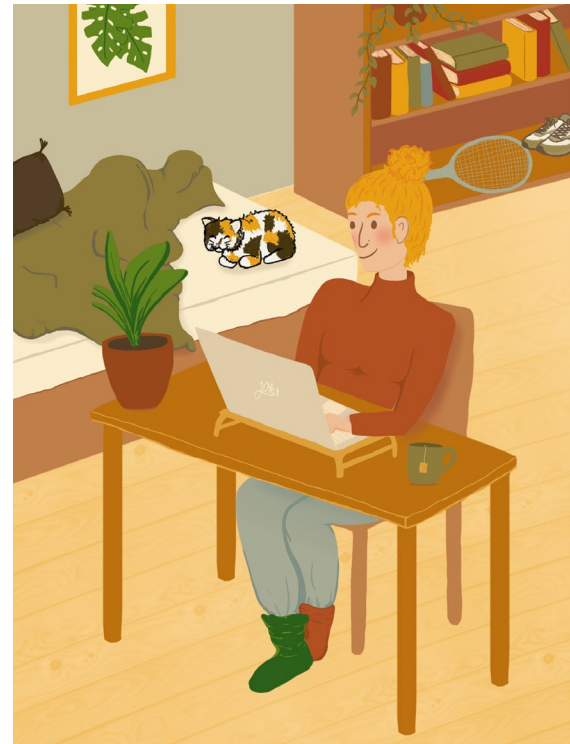
**Note:** Values indicate standardized cluster means.  
**Fig. 2.** Cluster profiles by factor used for segmentation (z-scores).



**Note:** Letters (a–c) show significance groups per factor. Clusters with the same letter do not differ significantly ( $p < .05$ , Bonferroni). Different letters indicate significant differences. "a" = highest mean group, "c" = lowest.

**Fig. 3.** Cluster profiles across factors representing the segmentation basis (Means + Significance Letters).

# Teleworker Typology



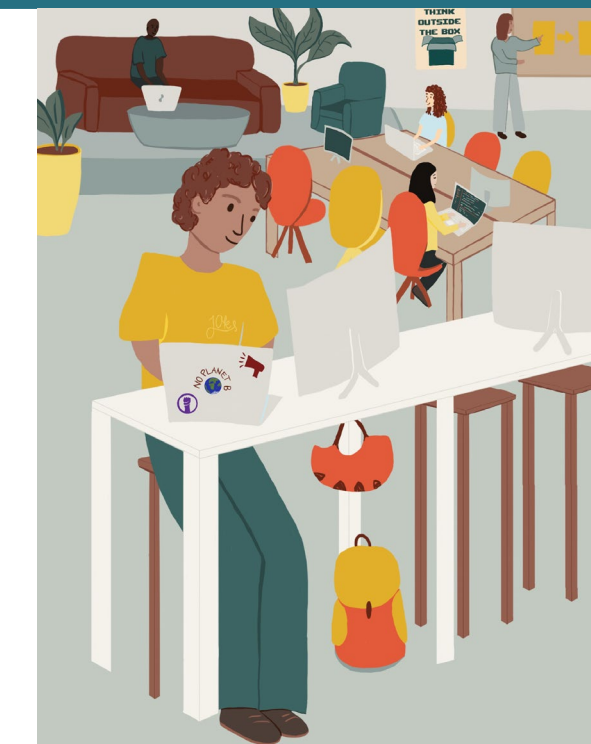
**Pragmatic**  
**47.1%**

- ❖ Exhibit functional stand toward sustainability
- ❖ Balanced gender distribution
- ❖ Highest hh income
- ❖ Average educational level



**Sceptical Individualistic**  
**29.1%**

- ❖ Lowest sustainability engagement
- ❖ Predominantly male
- ❖ Lower hh income
- ❖ Lowest educational level



**Eco-Conscious Innovative**  
**23.8 %**

- ❖ Strongest sustainability engagement
- ❖ More women
- ❖ Middle-income hh
- ❖ Highest educational level

# Dependent Variables

- ❖ Confirmatory Factor Analysis
- ❖ Commuting-related CO<sub>2</sub>eq emissions followed Balthasar et al.'s (2024) method
- ❖ Wellbeing = f(
  - Satisfaction with life
  - Subjective health
  - Job demand model)
- ❖ One-way ANOVA tests show significant effects of teleworker profile on those dependent variables

Universe of the Study: Swiss teleworkers

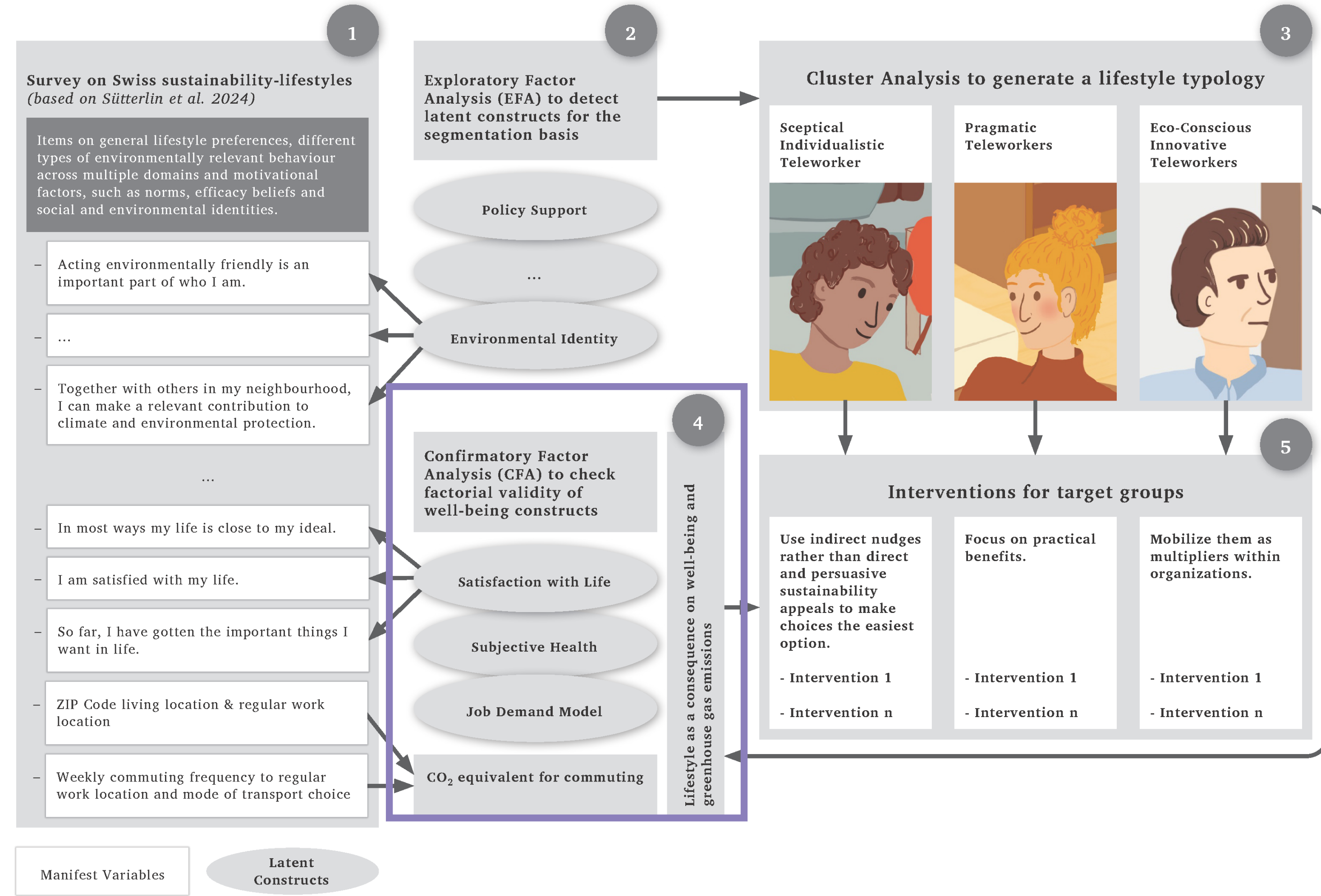
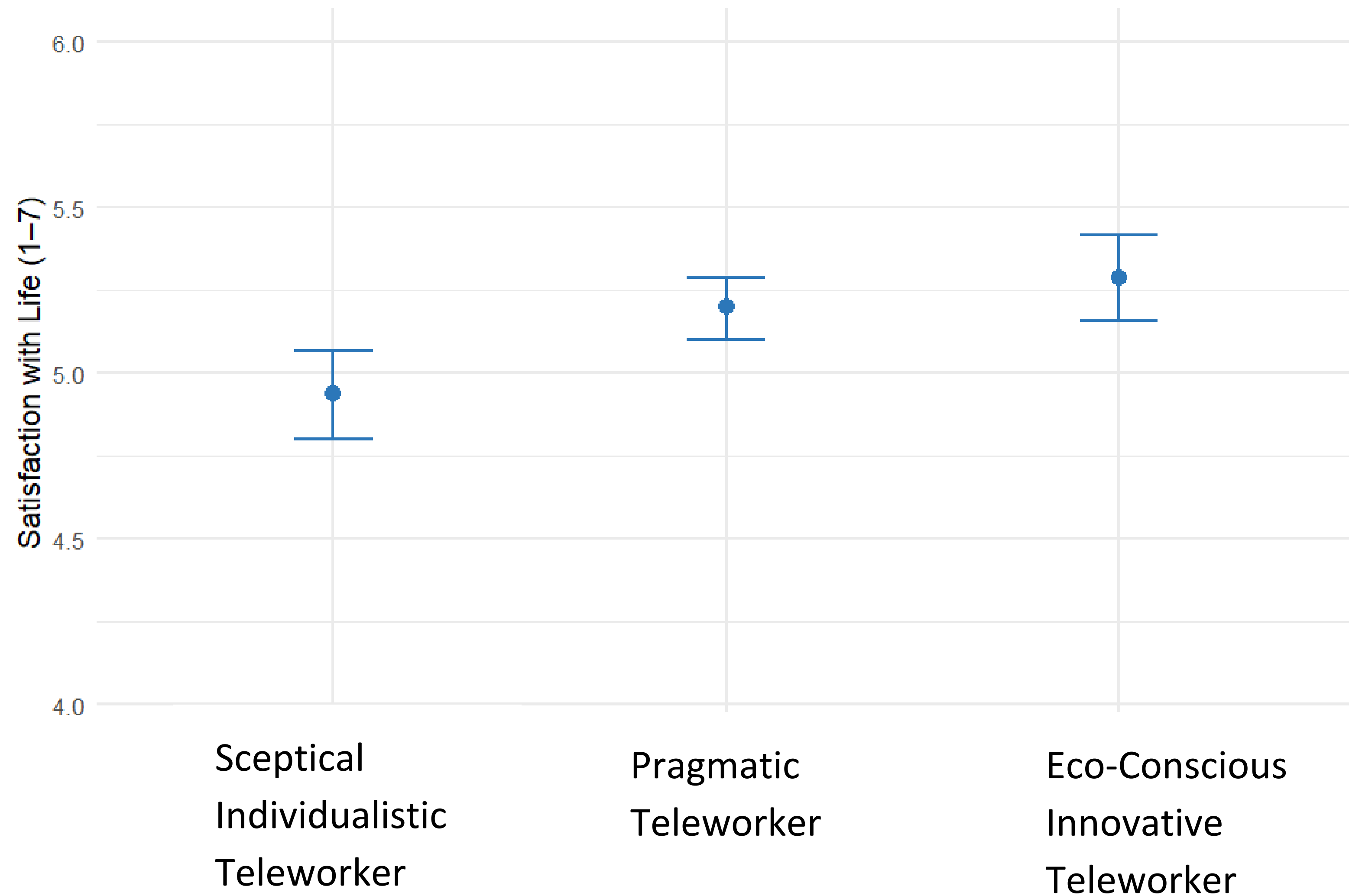


Fig.1. Conceptual and methodological framework.

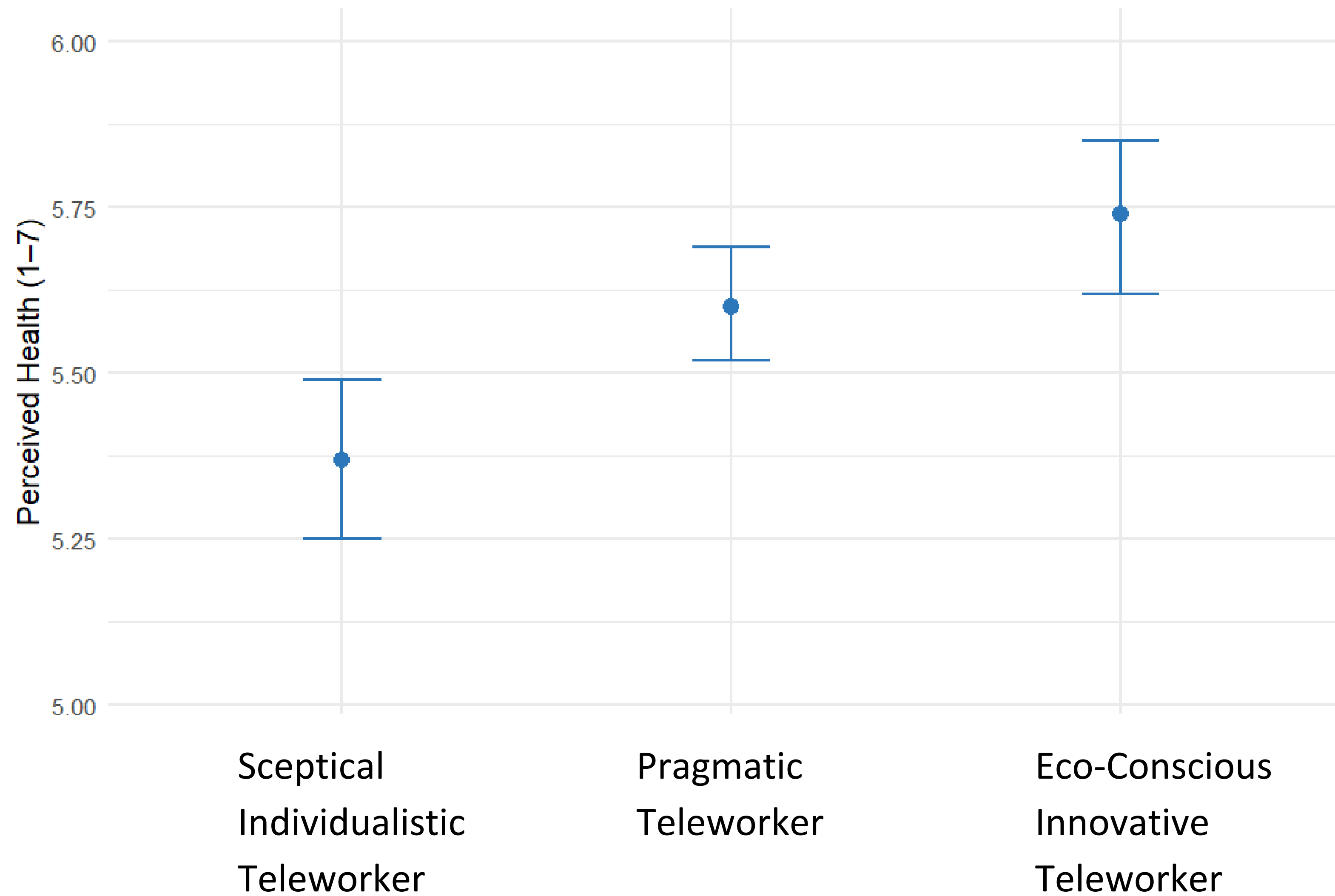
# Sceptical Individualistic Teleworkers

Lower satisfied with life

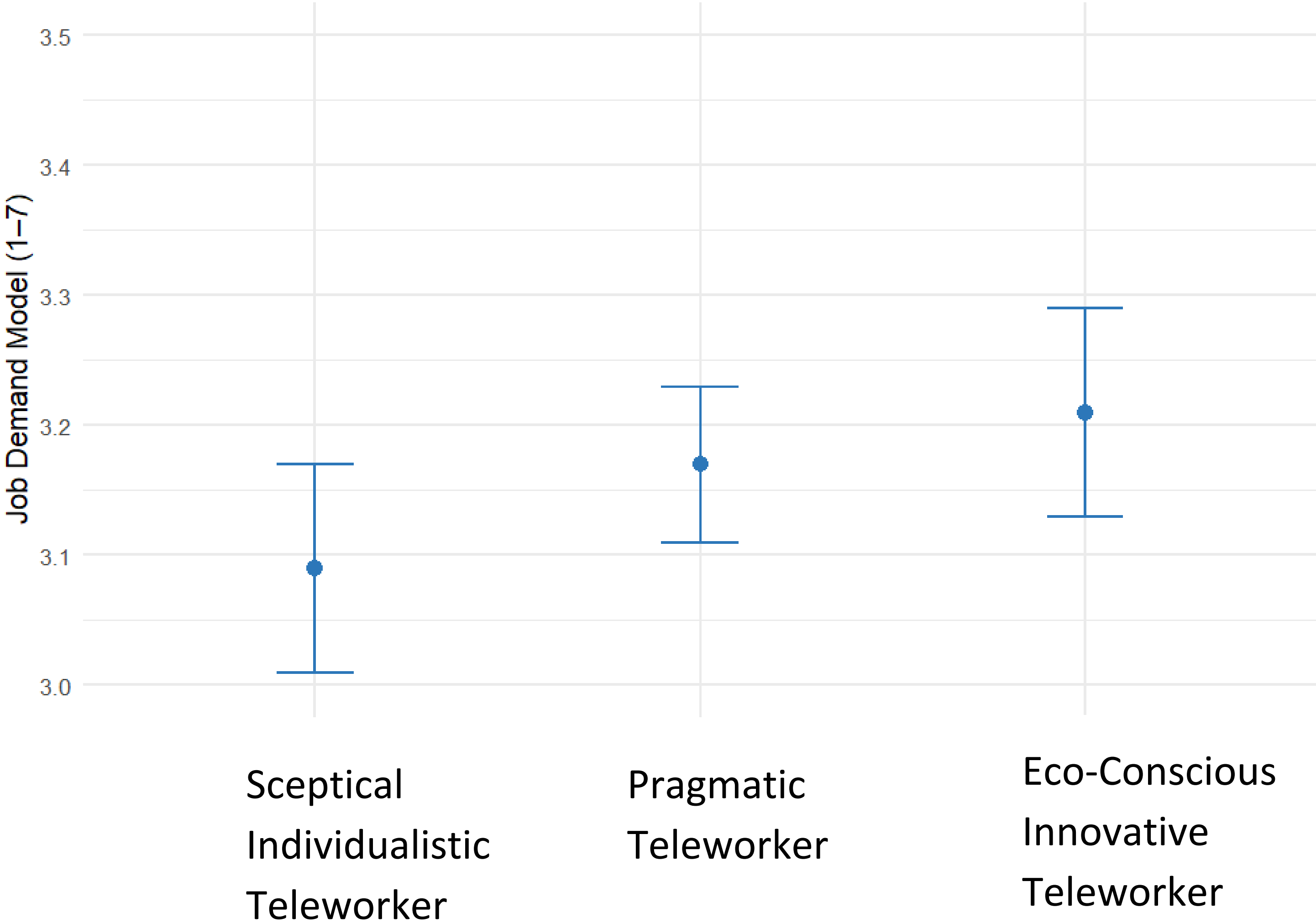


# Sceptical Individualistic Teleworkers

## Lower perceived health

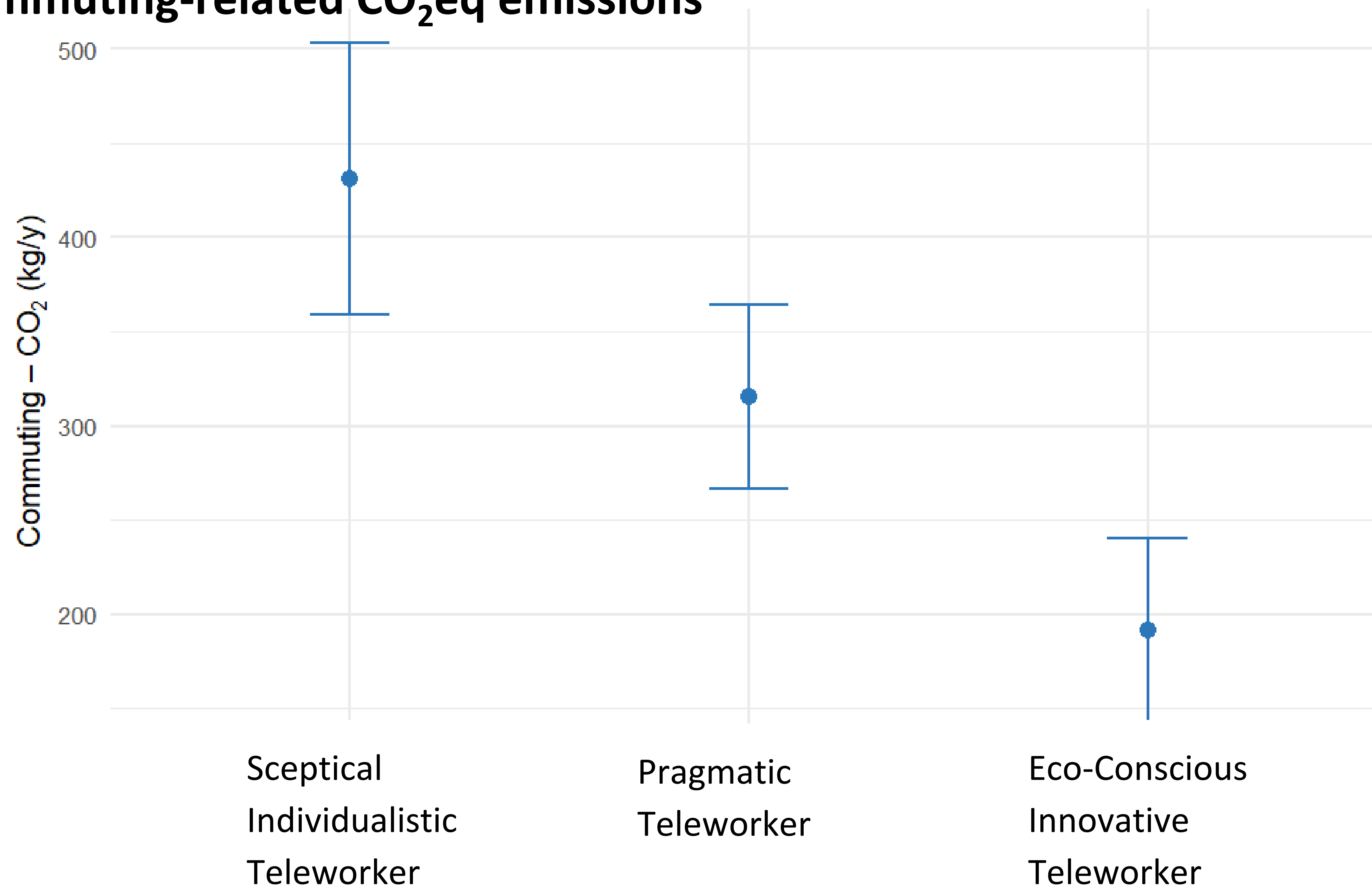


# No Differences in Job Demand



# Eco-Conscious Innovative Teleworkers

Lower commuting-related CO<sub>2</sub>eq emissions



# Mutual Interrelations Between Well-Being and CO<sub>2</sub> Emissions?

## Only for sceptical individualistic teleworkers

Predictor	Well-being indicators		
	Satisfaction ( $\beta$ )	Job Demand Model ( $\beta$ )	Health ( $\beta$ )
CO <sub>2</sub> emissions	.024	-.016	.157
SI (vs. ECI)	-.104**	-.096**	-.093*
PR (vs. ECI)	-.015	-.049	.017
CO <sub>2</sub> × SI	-.030	.069	-.135*
CO <sub>2</sub> × PR	.013	.043	-.100
Adj. R <sup>2</sup>	.09	.01	.14
F	3.03**	1.34	4.30***
n	1186	1182	1187

# Intervention Design

Universe of the Study: Swiss teleworkers

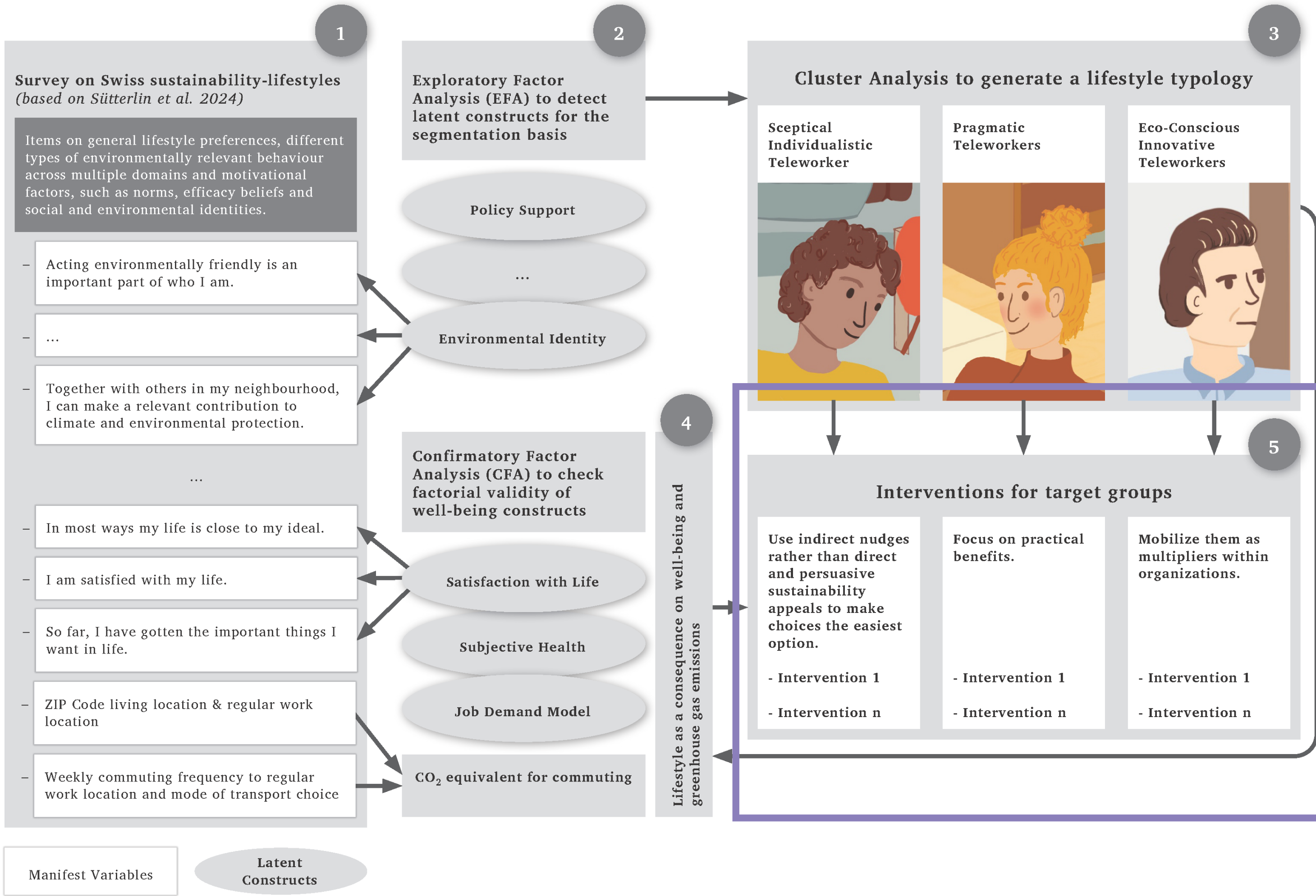


Fig.1. Conceptual and methodological framework.

# Policy Recommendations

	Pragmatic Teleworker	Sceptical Individualistic Teleworker	Eco-Conscious Innovative Teleworker
Knowledge Effectiveness			
Dos	<ul style="list-style-type: none"> <li>• Personal convenience</li> <li>• Time savings</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency (<b>higher well-being</b>)</li> <li>• Autonomy</li> <li>• Convenience</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental goals</li> <li>• Social engagement</li> </ul>
Don'ts	<ul style="list-style-type: none"> <li>• Abstract communicating of environmental goals</li> </ul>	<ul style="list-style-type: none"> <li>• Moral appeals</li> </ul>	
Normative Persuasion	<ul style="list-style-type: none"> <li>• Promote productive travel time in train</li> <li>• Financial advantages of shared mobility services</li> </ul>	<ul style="list-style-type: none"> <li>• Use indirect nudges rather than direct sustainability appeals</li> </ul>	<ul style="list-style-type: none"> <li>• Promote existing sustainability to expand to other areas</li> <li>• Supportive communication</li> </ul>
Role Models			<ul style="list-style-type: none"> <li>• Mobilize them as multipliers within organizations or neighbourhoods</li> </ul>

# Key Takeaways

- ❖ Teleworker heterogeneity matters
- ❖ CO2 emission outcomes vary among teleworker types
- ❖ Well-Being (health, satisfaction) vary among teleworker types
- ❖ Stronger ecological orientations within teleworker types are associated with substantially lower commuting-related CO2eq emissions
- ❖ For one type (sceptical individualist) more CO2 is related with less perceived health
- ❖ Starting point for interventions for less CO2 with more well-being
- ❖ Effective energy reduction policy requires group-specific measures tailored to each teleworker type

# Thank you

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