# What drives climate (in)action in the general public?

Annina Thaller[1,2] (annina.thaller@uni-graz.at), Eva Fleiß[1], Thomas Brudermann[1]

(1) University of Graz, Austria; (2) FWF-DK Climate Change, University of Graz, Austria

## Behavior change: why…

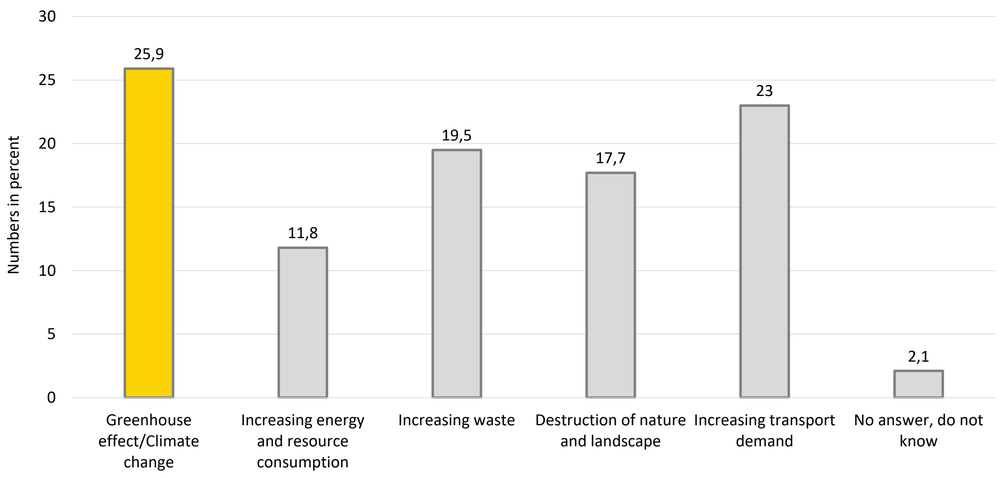


Figure 1. Most urgent environmental problem. Statistik Austria, 2017


VCÖ, 2018

Generally, although awareness and positive attitudes for climate change tend to be quite high, this does not always translate into respective behavior **("attitude-behavior gap")** (cf. Higham et al., 2016). Compare for example the results of an Austrian survey (above, F1) vs. air travel behavior (left). Although people perceive climate change as the most urgent environmental problem, this is not necessarily reflected in their choices. This research therefore investigates the influencing factors of climate (in)action in the general public.

**PSYCHO-SOCIAL FACTORS**

attitudes, values, preferences, social and personal norms, practices, habits, etc.

Example: contrasting values between environmental protection and wanting to travel the world

**COGNITIVE FACTORS**

different kinds of knowledge, skills, capabilities, cognitive barriers

Example: physical knowledge about climate change, comparing products regarding their energy efficiency

## … and how?

**SOCIO-DEMOGRAPHIC FACTORS**

age, gender, political affiliation, education, working situation, family status, income class, etc.

Example: different behavior depending on income class, geographical location, etc.

**CLIMATE ACTION**

emission-related behavior, political action, mitigation and adaptation measures, communication activities, etc.

Example: reduce driving, signing a climate petition, joining an initiative

Clayton et al., 2015; Hines et al., 1987

*"Education, information, and community approaches, including those that are informed by indigenous knowledge and local knowledge, can accelerate the wide-scale behaviour changes consistent with adapting to and limiting global warming to 1.5°C. These approaches are more effective when combined with other policies and tailored to the motivations, capabilities and resources of specific actors and contexts (high confidence)." (IPCC, 2018)*

## Method

An online survey was conducted, resulting in a quota-representative sample of the Austrian population (N = 499). OLS regression models were used to investigate the influence of three types of predictors (psycho-social, cognitive and socio-demographic ones) on three types of climate action. Behavior and psycho-social influencing factors were measured using five-point Likert scales. Knowledge was measured using ten true/false questions. The research design is illustrated in the middle (Figure 2). Descriptions of variables can be found on the right side of this box.

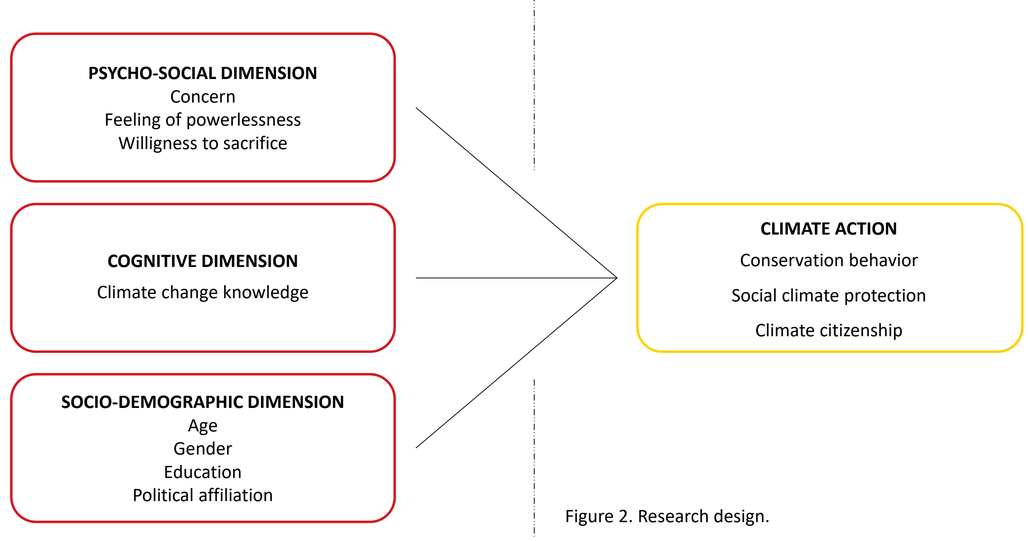


Figure 2. Research design.

**VARIABLE DESCRIPTION**

**Concern**
general worry regarding climate change and its consequences

**Feeling of powerlessness**
the extent to which people believe their actions can or cannot make a difference

**Willingness to sacrifice**
the readiness to give up certain products or pay higher prices to protect the climate

**Conservation behavior**
all kinds of activities aiming at reducing personal negative climate impacts

**Social climate protection**
climate action performed together with other members of society

**Climate citizenship**
political engagement as well as general activism of individuals and/or groups to combat climate change

## Key findings

| Predictors | Conservation behavior | Social climate protection | Climate citizenship |
|---|---|---|---|
| Knowledge | 0.213 (0.087) | **0.158 (0.127)*** | 0.065 (0.036) |
| Concern | 0.098 (0.070) | 0.014 (0.020) | 0.128 (0.121) |
| Feeling of powerlessness | **-0.234 (-0.193)*** | -0.041 (-0.066) | -0.098 (-0.107) |
| Willingness to sacrifice | **0.563 (0.333)*** | **0.299 (0.345)*** | **0.399 (0.305)*** |
| Age | **0.056 (0.156)*** | **0.022 (0.115)*** | **0.034 (0.120)*** |
| Gender (female) | **1.580 (0.180)*** | -0.295 (-0.065) | **-0.780 (-0.116)*** |
| Education (Matura) | 0.226 (0.026) | 0.115 (0.026) | 0.540 (0.080) |
| Political affiliation (right-wing) | 0.101 (0.012) | -0.439 (-0.097) | **-0.929 (-0.138)*** |
| Number of observations | 321 | 320 | 309 |
| Adj. R-squared | 0.297 | 0.195 | 0.258 |

*p < 0.05. Note: The table presents unstandardized regression coefficients, constant omitted, standardized beta values in parenthesis. For the dichotomous variables gender, education and political affiliation, represented values belong to the category displayed in parenthesis.

**CONSERVATION BEHAVIOR**
- ↑ for lower feeling of powerlessness (-)
- ↑ for higher willingness to sacrifice (+)
- ↑ for higher age (+)
- ↑ for women (+)

**SOCIAL CLIMATE PROTECTION**
- ↑ for higher knowledge (+)
- ↑ for higher willingness to sacrifice (+)
- ↑ for higher age (+)

**CLIMATE CITIZENSHIP**
- ↑ for higher willingness to sacrifice (+)
- ↑ for men (+)
- ↑ for higher age (+)
- ↑ for left-wing voters (+)

## Policy implications

I. Different influencing factors are relevant for different kinds of climate action. **Successful campaigns should be tailored to the specific behavior desired to be changed**.

II. General concern does not translate into respective behavior choices. In line with previous literature, **an attitude-behavior gap was found in this study**.

III. Socio-demographic subgroups show different behavior**. Diverse approaches will be necessary to reach different socio-demographic groups**.

IV. Personal values **(willingness to sacrifice) play biggest role** among the influencing factors (cf. Corner et al., 2014). For those groups that possess lower personal values in respect to climate change, addressing potential **benefits of climate action for other areas** or providing **additional incentives** might be useful approaches.

**References**

**[1]** Clayton, S., Devine-Wright, P., Stern, P. C., Whitmarsh, L., Carrico, A., Steg, L., Swim, J., Bonnes, M. (2015). Psychological research and global climate change. *Nature Climate Change*, 5, 640-646. **[2]** Corner, A., Markowitz, E., Pidgeon, N. (2014). Public engagement with climate change: the role of human values. *WIREs Clim* Change, 5, 411-422. **[3]** Higham, J., Reis, A., Cohen, S. A. (2016). Australian climate concern and the 'attitude–behaviour gap'. *Current Issues in Tourism*, 19(4), 338-354. **[4]** Hines, J. M., Hungerford, H. R., Tomera, A. N. (1987). Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis. *The Journal of Environmental Education*, 18(2), 1-8. **[5]** IPCC (2018). Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte et al. (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp. **[6]** Statistik Austria (2017). Vordringlichstes Umweltproblem. Mikrozensus Umweltbedingungen - Umweltverhalten 3.Quartal 2015. **[7]** VCÖ (2018). VCÖ: CO2-Emissionen durch Flugverkehr in Österreich seit 1990 mehr als verdoppelt. https://www.vcoe.at/presse/presseaussendungen/detail/20181205-co2-emissionen-flugverkehr-oesterreich?utm_source=mailing-20181205&utm_medium=email&utm_campaign=emissionen-flugverkehr.

**Acknowledgments**

The Faculty of Environmental, Regional and Educational Sciences of the University of Graz is thanked for financial support. This work was funded by the Austrian Science Fund (FWF) under research grant W 1256 (Doctoral Programme Climate Change – Uncertainties, Thresholds and Coping Strategies).